NiSM VRIDDHI

Students Magazine

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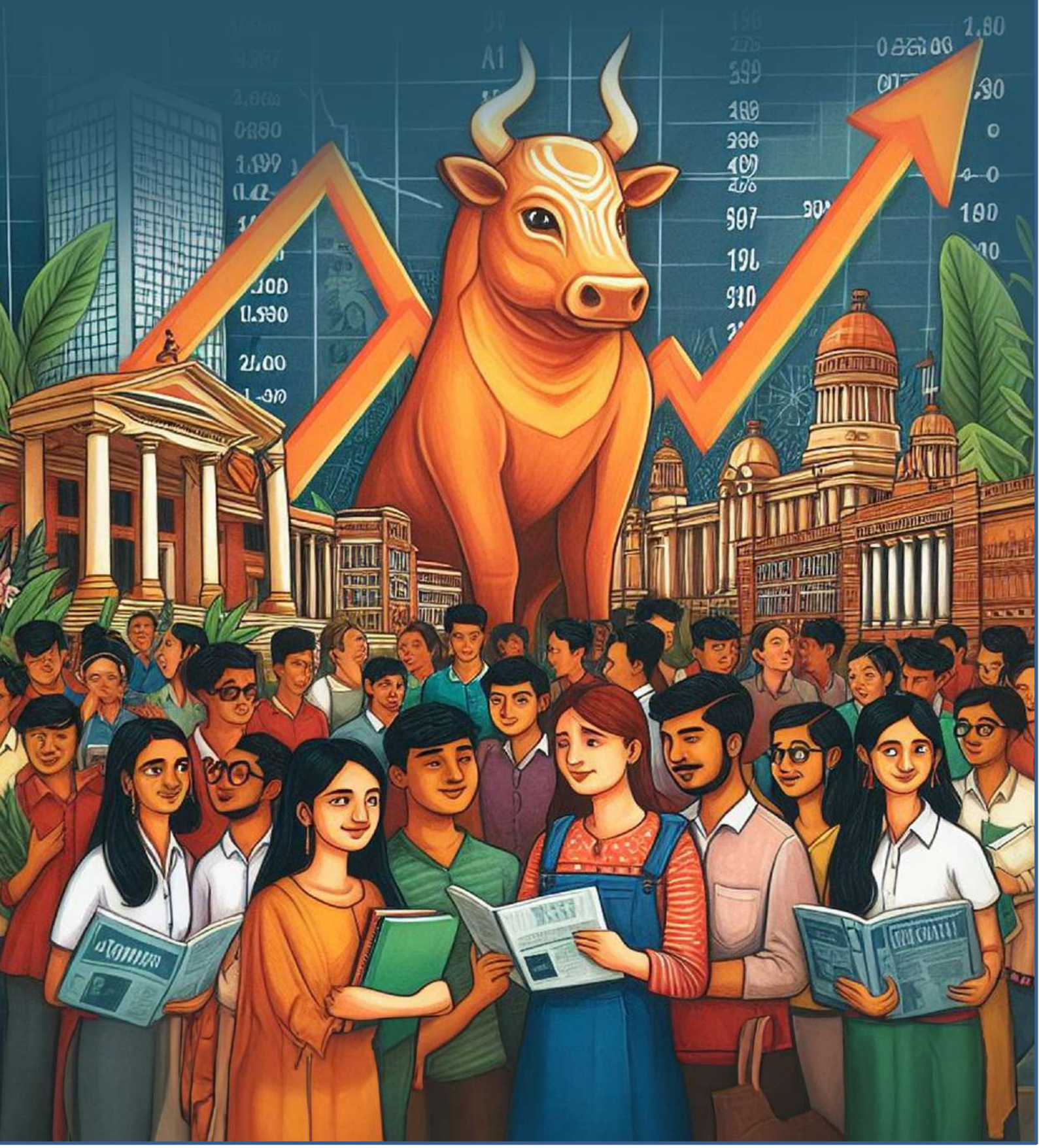

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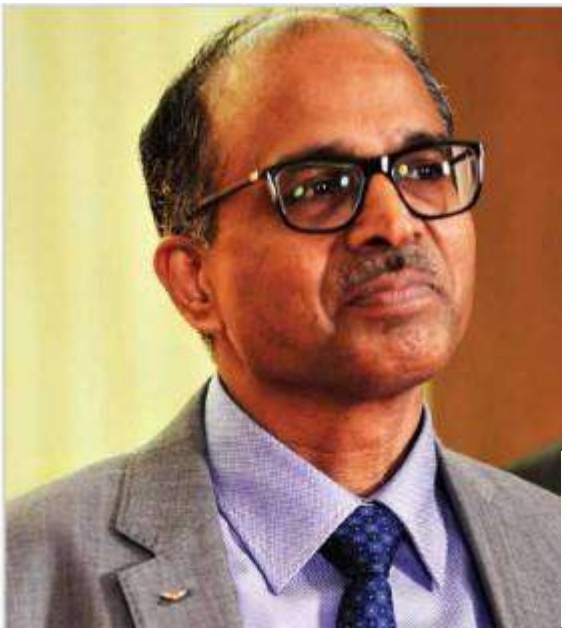

Message from the Director, NISM

Dear Students,

It is with great pleasure that I extend my warm greetings to you on the occasion of the 5th anniversary of your esteemed magazine, "Vriddhi" Over the years, this magazine has served as a valuable platform for students to showcase their knowledge, insights, and perspectives on the dynamic world of financial markets.

I am confident that the skills and knowledge you have acquired at NISM, combined with your dedication, will enable you to make significant contributions to the growth and development of the Indian financial markets.

I wish you all the best in your future endeavors.

Dr. CKG Nair
Director, NISM

Message from the Registrar, NISM

Dear Students,

It gives me immense pleasure to extend my warmest greetings to all the talented individuals involved in the creation of the fifth edition of "Vriddhi," our esteemed student's magazine.

"Vriddhi" has always been a platform for sharing ideas, perspectives, and stories related to securities markets, and this edition promises to be no different.

As the Registrar of this esteemed institution, I feel immense pride in witnessing the growth and vibrancy of "Vriddhi" over the years.

Finally, I would like to express my heartfelt gratitude to the editorial team for their commitment, perseverance, and vision in bringing "Vriddhi" to life. Your efforts have truly made a difference, and I have no doubt that this edition will leave an indelible mark on the literary landscape of our institution.

Congratulations to all the contributors and the entire team behind the fifth edition of "Vriddhi." May it continue to thrive and inspire generations to come.

With warm regards

Sunil Kadam
Registrar, NISM

Message from the Dean, NISM

Dear Student,

With immense pride and joy, I extend my heartfelt congratulations to each and every one of you for your achievements and contributions that have made the NISM community shine. As your teacher, I have first-hand witnessed your dedication, sincerity and perseverance. Continue to strive for greatness, embrace new challenges. Please remember that success is not solely defined by your grades or the pay packages, but by the positive impact you bring to the world around you. Your time at NISM campus is not just about academic pursuits; it is about holistic growth, self-discovery, and preparing for the future. Through the pages of this magazine, share your experiences, insights, and lessons learned and inspire your peers with your journey, and let this magazine be a testament to the incredible potential in you.

Congratulations once again, and thank you for being an integral part of the NISM community. Your achievements fuel our pride.

Dr. Rachana Baid
Dean-CCB 1, NISM

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Performance of Sustainable & Traditional Mutual Fund Product

- Ritesh Kumar

This study aims to illuminate the performance dynamics and investor tendencies within the Indian mutual fund market, particularly in the comparison between sustainable (ESG- focused) funds and traditional counterparts spanning from January 2013 to December 2022. The research meticulously examines financial metrics such as returns, standard deviations, and diverse ratios to scrutinize performance. Concurrently, a survey of 307 participants was conducted, providing comprehensive insights into the factors influencing investment decisions in both sustainable and traditional mutual funds.

Key Observations:

1. **Growing Recognition of ESG Funds:**

   The study emphasizes the noticeable increase in awareness regarding ESG funds, propelled by factors such as environmental consciousness, social impact, and commitment to good governance. Despite this, investments in traditional funds persist at a higher rate.

2. **Performance Evaluation:**

   Performance metrics reveal that specific ESG funds, particularly the "Quant ESG Equity Fund," exhibit commendable returns, excess returns, and Sharpe Ratios, suggesting potential for superior risk-adjusted returns. However, the research underscores the elevated volatility associated with ESG funds, underscoring the necessity for investors to align their risk tolerance and investment objectives.

3. **Investor Behaviours:**

   The survey highlights that a significant majority of investors maintain a substantial portion of their portfolios in traditional mutual funds. Primary motivations include financial returns, professional management, and risk mitigation. Factors influencing the choice between sustainable and traditional funds vary, with financial returns being a predominant consideration.

4. **Factors Impacting Investment Choices:**

   The majority of respondents prioritize financial returns when selecting mutual funds, signifying the primary impetus for engaging in investments. Professional management, risk mitigation, and regulatory oversight also play pivotal roles. Furthermore, the survey unveils a robust interest in social or environmental impact, indicating a growing inclination towards responsible investing.

Sustainable Mutual Funds:

Several funds in the dataset prioritize ESG criteria, aiming to align investments with sustainability goals. Notable among them is the "Quant ESG Equity Fund," which boasts the highest return in the dataset at 39.4%. This fund stands out not only in terms of returns but also exhibits the highest excess return (32%) and an exceptionally high Sharpe Ratio (1.61), indicating potential for superior risk-adjusted returns.

Other ESG-focused funds, such as "ICICI Pru ESG Fund" and "Axis ESG Equity Fund," show competitive performance with excess returns of 6-7%. These funds maintain moderate to high Sharpe Ratios, suggesting a balance between risk and return. Additionally, "Mirae Asset Nifty 100 ESG Sector Leaders FoF" demonstrates a strong Sharpe Ratio of 0.47, highlighting its competitive risk-adjusted performance.

However, it's important to note that ESG funds come with higher volatility, as seen in the annualized standard deviation values. For instance, "Quant ESG Equity Fund" exhibits the highest volatility at 20%, signalling higher risk. Investors interested in sustainable investing should carefully consider their risk tolerance and investment goals.

The Treynor Ratios further emphasize the risk-adjusted performance of ESG funds. "Quant ESG Equity Fund" stands out with an exceptionally high Treynor Ratio of 16.25, indicating potentially outstanding risk-adjusted returns. "ICICI Pru ESG Fund" and "Mirae Asset Nifty 100 ESG Sector Leaders FoF" also exhibit strong ratios, suggesting solid risk-adjusted performance

However, the tracking error values for ESG funds, including "Axis ESG Equity Fund" and "Quant ESG Equity Fund," are higher, indicating potential divergence from benchmarks. Investors should carefully consider these tracking errors in conjunction with other metrics when evaluating the performance of ESG funds.

The Sortino Ratios for ESG funds, such as "ICICI Pru ESG Fund" and "Mirae Asset Nifty 100 ESG Sector Leaders FoF," are high (above 7), indicating robust risk- adjusted returns with a focus on protecting against downside risk.

In terms of capture ratios, ESG funds like "ICICI Pru ESG Fund" showcase a balanced performance, with a relatively low-Down Capture Ratio (0.92) and a moderate Up Capture Ratio (1.06). This indicates resilience during market downturns and effective participation in upswings, appealing to investors seeking a balanced risk-return profile in sustainable investments.

Traditional Mutual Funds:

In contrast, traditional mutual funds, such as "Mirae Asset Large Cap Fund" and "Axis Blue-chip Fund," demonstrate stable returns without a specific focus on ESG criteria. "Mirae Asset Large Cap Fund" stands out with a substantial excess return of 8%, suggesting strong performance in large-cap stocks. The fund also exhibits a solid Sharpe Ratio of 0.50, indicating good risk-adjusted performance.

Blue-chip equity funds, including "ICICI Pru Blue-chip Fund" and "Axis Blue-chip Fund," showcase stable returns with moderate volatility. These funds, while not explicitly focusing on ESG factors, present investors with options for a balanced risk- return profile.

The tracking error values for traditional funds are generally lower, indicating closer alignment with benchmarks. However, the Sortino Ratios may not be as high as those seen in some ESG funds, suggesting a potentially lower emphasis on protecting against downside risk.

In terms of capture ratios, traditional funds like "HDFC Top 100 Fund" and "Nippon India Large Cap Fund" demonstrate consistent performance across market conditions, with balanced Down and Up Capture Ratios.

Enhancing Equity Valuation: Embracing Uncertainty with Monte Carlo Simulations

-Shikhar Dubey

In the ever-evolving landscape of finance, accurate equity valuation is paramount for informed decision-making, especially in the realm of stocks and assets. Traditional methods, such as the Discounted Cash Flow (DCF) model, have long served as the cornerstone of valuation. However, these methods often provide singular estimates, failing to encapsulate the dynamic nature of uncertainties and risks inherent in
financial markets.

This research endeavours to revolutionize the equity valuation process by integrating Monte Carlo simulations into the traditional DCF model. Through a comprehensive case study on FSN E-commerce Ventures Ltd.-Nykaa, this paper aims to showcase the transformative impact of Monte Carlo simulations on equity valuation. By delving into the nuances of revenue growth, EBIT margin, depreciation rate, working capital, and capital expenditure, this study illuminates the power of Monte Carlo simulations in offering a nuanced understanding of uncertainties, thus empowering decision-makers with valuable insights.

Introduction: Rethinking Valuation in a Dynamic Environment

The financial landscape has witnessed a paradigm shift in valuation methodologies, driven by technological advancements and a quest for enhanced precision. The Discounted Cash Flow (DCF) model, a stalwart in valuation, has traditionally relied on singular point estimates, offering a limited perspective on potential valuations. As the world grapples with unprecedented data availability and rapid market changes, the need to incorporate uncertainty and risk into valuation models becomes increasingly apparent.

The Problem: Rethinking Singular Estimates

The core issue lies in the limitations of traditional valuation models, such as the DCF, which predominantly hinge on precise predictions that fail to encapsulate the fluid nature of future scenarios. While these models served their purpose in the past, the evolving landscape demands a more nuanced approach that acknowledges and
incorporates uncertainties.

Research Objectives and Questions

This research endeavours to address these challenges by employing Monte Carlo simulations, a probabilistic approach, alongside the conventional DCF model. The research questions driving this exploration are:

1. Determining Nykaa's Fair Price: What is Nykaa's fair price as of November 30, 2023?

2. Understanding Uncertainty: What insights does the Monte Carlo approach offer regarding uncertainty?

3. Communication of Uncertainty: Should uncertainty information be communicated to all users of valuations?

Limitations and Methodology

While the research primarily focuses on leveraging Monte Carlo simulations for equity valuation, it acknowledges limitations, such as restricted access to proprietary company data. The study utilizes public information, including annual reports and industry analyses, to construct the valuation model.

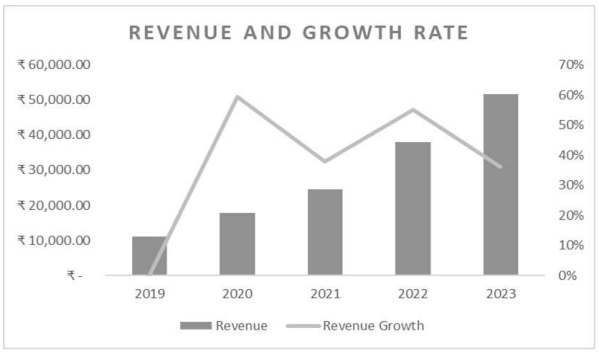
Theoretical Framework: Reinventing Valuation Methodologies

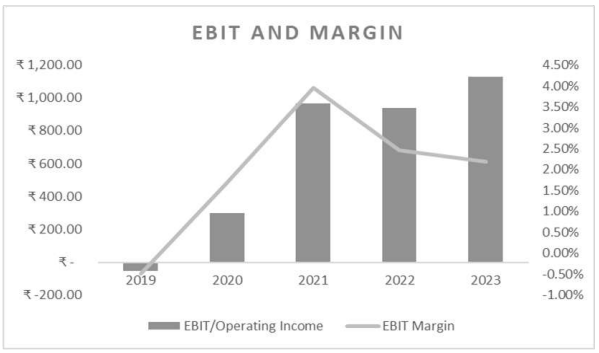
The research seeks to bridge the gap between conventional valuation methodologies and advanced statistical tools. By integrating Monte Carlo simulations into the DCF model, the study aims to offer a comprehensive assessment of uncertainties and risks involved in equity valuation.

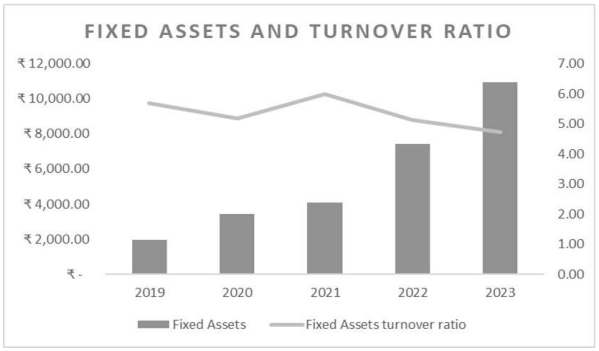
Case Study: Nykaa Valuation

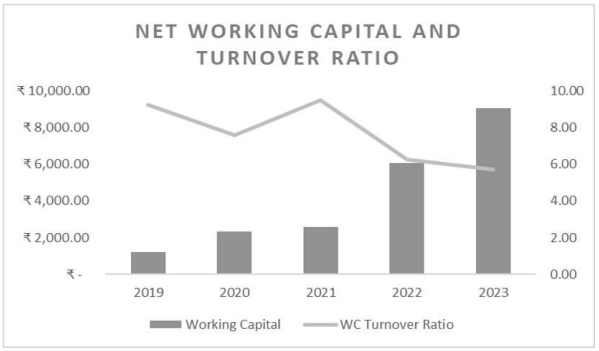
Financial Analysis and Historical Trends

Nykaa's historical performance reveals consistent revenue growth, shifting from sporadic surges in Other Income to robust expansions in Total Income. Notably, EBIT transitioned from negative to positive, showcasing improved operational efficiency. Trends in Fixed Assets Turnover Ratio and Working Capital highlight the company's investment and revenue generation dynamics.



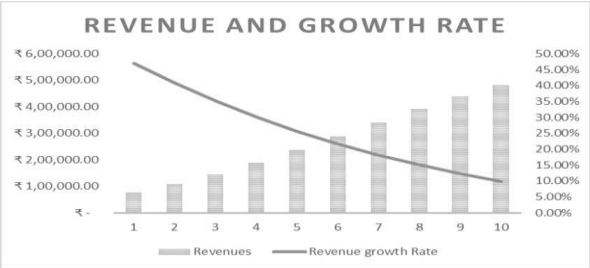


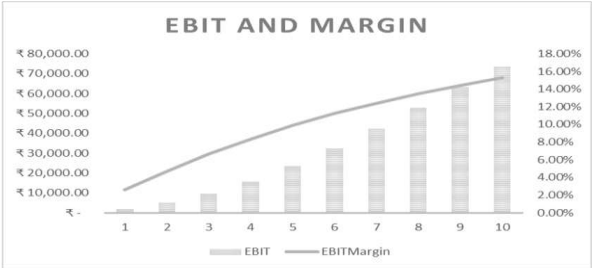


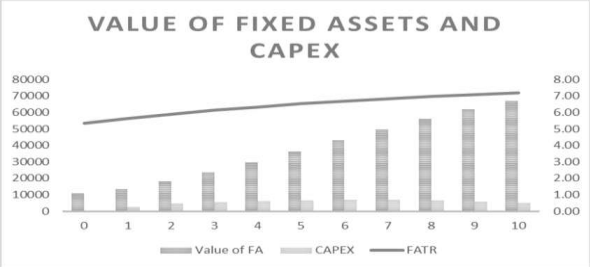


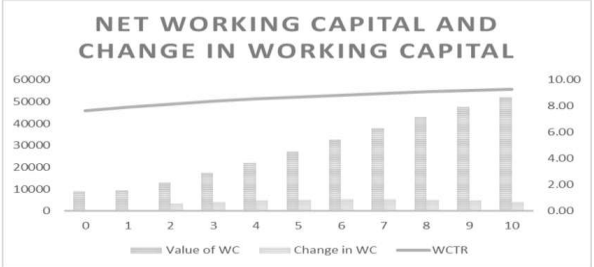
Forecasted Variables and Cost of Capital

Projections for revenue, earnings, fixed assets turnover, working capital turnover, and depreciation shed light on the company's anticipated trajectory. The analysis incorporates the cost of equity and debt, essential components influencing the valuation process.









DCF Valuation: Singular Estimates

Utilizing the DCF model, Nykaa's Equity Value is estimated at ₹3,42,47,14,28,627.46, translating to a per-share value of ₹120.06. However, this method fails to capture the inherent uncertainties and risks.

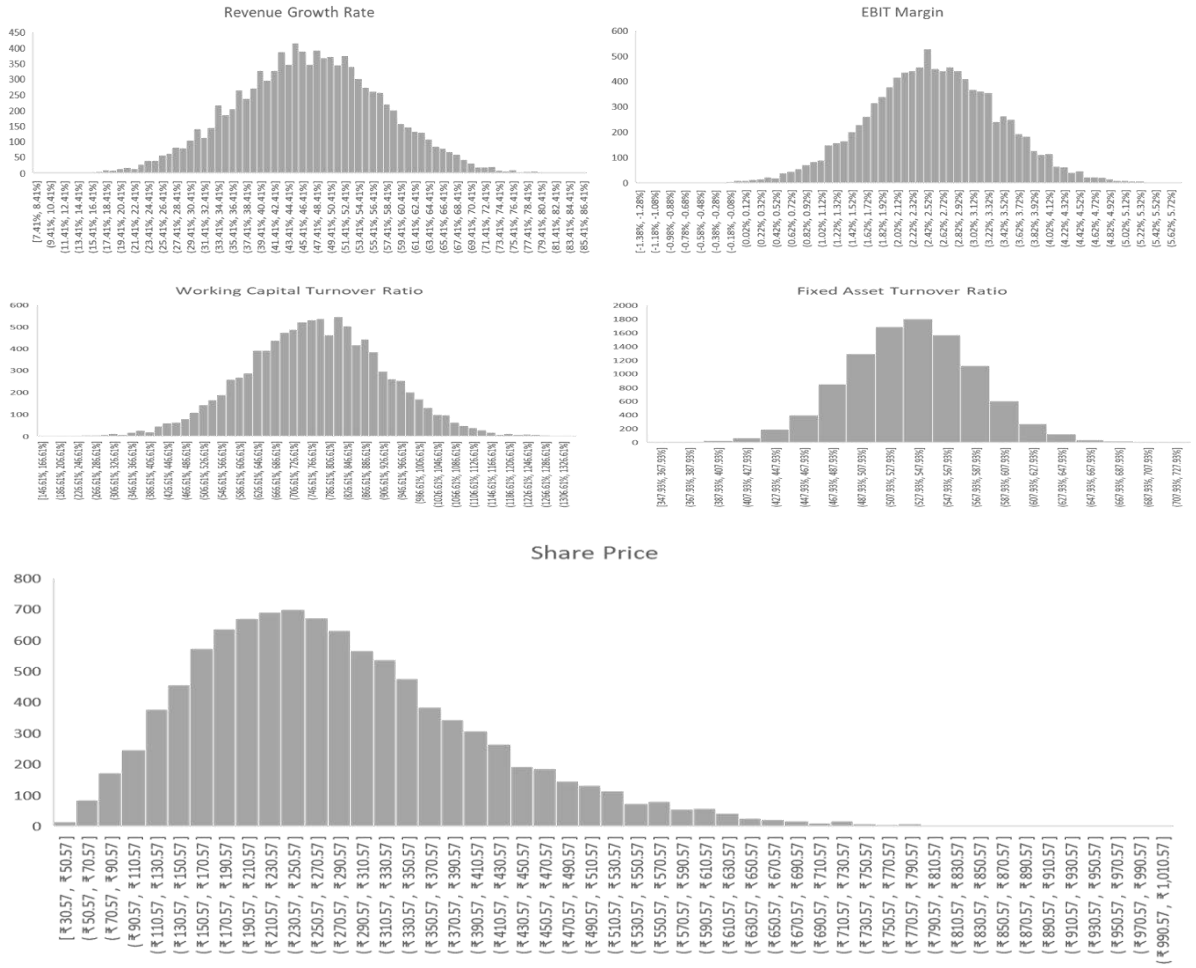
Particular	1	2	3	4	5	6	7	8	9	10
Revenue growth Rate	47.08%	40.73%	35.10%	30.09%	25.63%	21.67%	18.15%	15.03%	12.25%	9.77%
Revenues	₹ 76,097.69	₹ 1,07,095.99	₹ 1,44,684.19	₹ 1,88,215.05	₹ 2,36,459.70	₹ 2,87,708.87	₹ 3,39,940.26	₹ 3,91,019.68	₹ 4,38,901.35	₹ 4,81,797.95
EBITMargin	2.57%	4.73%	6.65%	8.35%	9.87%	11.22%	12.41%	13.48%	14.43%	15.27%
EBIT	₹ 1,954.52	₹ 5,062.96	₹ 9,616.68	₹ 15,720.84	₹ 23,336.14	₹ 32,271.91	₹ 42,203.55	₹ 52,709.42	₹ 63,318.80	₹ 73,561.59
Tax Rate	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%
EBIT(1-t)	₹ 1,524.53	₹ 3,949.11	₹ 7,501.01	₹ 12,262.25	₹ 18,202.19	₹ 25,172.09	₹ 32,918.77	₹ 41,113.35	₹ 49,388.66	₹ 57,378.04
	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%
Depreciation	₹ 2,024.59	₹ 2,722.57	₹ 3,538.24	₹ 4,452.26	₹ 5,435.50	₹ 6,451.58	₹ 7,460.39	₹ 8,421.88	₹ 9,299.51	₹ 10,063.01
Change in WC	₹ 581.10	₹ 3,531.55	₹ 4,176.01	₹ 4,728.36	₹ 5,133.90	₹ 5,350.83	₹ 5,355.67	₹ 5,145.33	₹ 4,735.88	₹ 4,158.75
Capex	₹ 2,562.76	₹ 4,653.21	₹ 5,437.79	₹ 6,093.51	₹ 6,554.92	₹ 6,773.85	₹ 6,725.40	₹ 6,409.90	₹ 5,850.88	₹ 5,090.04
FCFF	₹ 405.25	₹ -1,513.07	₹ 1,425.45	₹ 5,892.65	₹ 11,948.87	₹ 19,498.99	₹ 28,298.09	₹ 37,979.99	₹ 48,101.41	₹ 58,192.27
Terminal Value										₹ 9,79,163.78

FCFF YoY	₹	2,10,229.89
Terminal Value	₹	9,79,163.78
PV of FCFF	₹	74,406.84
PV of Terminal Value	₹	2,66,713.91
Value of Operating Assets	₹	3,41,120.75
Value of Non-Operating Assets	₹	1,982.26
Debt	₹	-3.61
Cash	₹	1,487.40
Equity Value	₹	3,44,58,68,00,747.02
Number of Shares		2852446720
Value per Share	₹	120.80

Particular	0	1	2	3	4	5	6	7	8	9	10
FATR	5.34	5.64	5.90	6.13	6.34	6.53	6.69	6.83	6.96	7.08	7.18
Value of FA	10934.49	₹ 13,497.25	₹ 18,150.46	₹ 23,588.25	₹ 29,681.76	₹ 36,236.68	₹ 43,010.53	₹ 49,735.93	₹ 56,145.84	₹ 61,996.72	₹ 67,086.76
CAPEX		₹ 2,562.76	₹ 4,653.21	₹ 5,437.79	₹ 6,093.51	₹ 6,554.92	₹ 6,773.85	₹ 6,725.40	₹ 6,409.90	₹ 5,850.88	₹ 5,090.04
WCTR	7.65	7.92	8.15	8.35	8.54	8.70	8.84	8.97	9.09	9.19	9.28
Value of WC	9032.82	₹ 9,613.92	₹ 13,145.47	₹ 17,321.47	₹ 22,049.84	₹ 27,183.74	₹ 32,534.57	₹ 37,890.24	₹ 43,035.57	₹ 47,771.45	₹ 51,930.19
Change in WC		₹ 581.10	₹ 3,531.55	₹ 4,176.01	₹ 4,728.36	₹ 5,133.90	₹ 5,350.83	₹ 5,355.67	₹ 5,145.33	₹ 4,735.88	₹ 4,158.75

Monte Carlo Simulation: Embracing Uncertainty

The integration of Monte Carlo simulations offers a paradigm shift, presenting a spectrum of potential outcomes. Simulations yield a diverse range of share prices, emphasizing the uncertainties inherent in valuation. Percentile distribution showcases a wide range of potential equity values, reinforcing the necessity of accounting for uncertainties in decision-making.



Results and Conclusion: Embracing Uncertainty for Informed Decisions

The juxtaposition of DCF and Monte Carlo approaches underscores the limitations of singular estimates and the transformative potential of probabilistic simulations. While the deterministic model offers a favourable outlook, the Monte Carlo approach enriches the valuation process by exposing a range of potential outcomes, urging stakeholders to acknowledge uncertainties.

The Equity Value (EV) of ₹3,42,47,14,28,627.46, translating to a per-share value of ₹120.06, contrasts with the current market price of ₹174.40, indicating potential investment promise in the case of FSN E-commerce Ventures Ltd.-Nykaa. Insights gleaned from Monte Carlo simulations unveil a diverse spectrum of potential values, with a 50% probability falling below ₹266.38 and a 25% chance below ₹194.11, demonstrating the range of potential outcomes. This method also sheds light on volatility, evidenced by a standard deviation of ₹126.66, offering a nuanced understanding of risk and potential variances. The advantages of the Monte Carlo approach are evident in its probabilistic outlook, providing insights into various potential outcomes, and its ability to articulate uncertainty, emphasizing volatility and potential fluctuations.

In conclusion, the research highlights the significance of embracing uncertainty in equity valuation. By communicating a spectrum of potential valuations through Monte Carlo simulations, decision-makers are empowered to make more informed and robust investment decisions in a dynamic and uncertain financial landscape.

Comparative Analysis of Emerging Stock Market with Developed Markets.

-Nihal Kumar Sahu

Introduction

Indian stock exchanges occupy a significant position not only in Asia but also on the global stage. The Bombay Stock Exchange (BSE) stands as one of the world's oldest exchanges, while the National Stock Exchange (NSE) is renowned for its sophistication and technological advancement. The Indian stock market gained momentum following the economic liberalization in the early nineties, utilizing the entire decade to experiment and refine an efficient system. Measures such as discontinuing the 'badla' system to curb unnecessary volatility, the introduction of the derivatives segment in 2000, and the gradual implementation of corporate governance rules contributed to creating a uniform level for listed companies.

On the global scale, economic shifts such as the 'dot com bubble burst,' 9/11, and rising oil prices marked a paradigm shift. The US economic slowdown and interest rate tightening added complexity to the equation. However, post-2000, with robust growth, a maturing economy, and relaxed regulations, outside investors, both institutional and others, found increased opportunities for operation. This opening up of the system resulted in heightened cross-border flow of capital, making India an investment 'hot spot' and subjecting our stock exchanges to unprecedented global influences.

This study focuses on a comparative analysis of the Indian Stock Market in relation to various international counterparts. Exchanges are now transcending national boundaries to expand their service areas, leading to cross-border integration. Cross-border trading options are being offered to facilitate overseas investment, enhancing the appeal of exchanges for investors and attracting more volume. Global competition has compelled corporations to seek capital outside their home country, intensifying the cross-border dynamics. The Indian stock market ranks as the world's third-largest stock market based on the investor base, boasting a collective pool of around 20 million investors and over 9,000 listed companies. The Bombay Stock Exchange, dating back to 1875, holds the distinction of being the oldest in Asia, while the National Stock Exchange, established in 1992, is the largest and most advanced stock market in India and the third-largest in Asia by transaction volume, standing among the top five in the world.

Problem

Currently, the fluctuations in the Indian market are predominantly attributed to cross-border capital flows in the form of Foreign Direct Investment (FDI) and Foreign Institutional Investment (FII), as well as the Indian market's responsiveness to global market cues. In this context, it becomes crucial to comprehend the relationships and influences among various exchanges. This study compares global exchanges representing different geopolitical, socioeconomic, and cultural contexts. Given the unprecedented cross-border movements of capital, particularly in the form of FDI and FII, and the relaxation of restrictions that have standardized systems and regulations across various stock exchanges, it is reasonable to assume that a particular stock exchange can exert an impact on others.

Objectives

The primary aim of this study is to analyze the trends, similarities, and patterns in the activities and movements of the Indian Stock Market in comparison to its global counterparts. The objective is to provide valuable insights for both current and potential investors, helping them comprehend the influence of significant events on the Indian Stock Exchange. This is particularly pertinent in the current landscape, where financial markets worldwide are becoming increasingly interconnected, leading to the potential impact of one exchange on others. In essence, the study seeks to test the hypothesis of whether various global stock exchanges influence each other and if there is any correlation in their movements, exploring the extent of such interdependence. Stemming from this primary hypothesis is the underlying question: In the given context, what implications would the findings have on the perception that international diversification of investment is advisable and beneficial in terms of both risk and return?

Conclusions

The study reveals several key conclusions that align with common beliefs. The primary goal of the research was to compare various stock exchanges based on specific parameters to understand the impact of financial world integration, especially in the context of globalization and increased interest in capital markets.

Existing research papers often focused on the gradual maturation of the Indian stock market over the past decade, but conclusive evidence regarding its comparative position with other global exchanges was lacking. This study, however, employs a comparative approach to benchmark the Indian stock market against a selection of global exchanges based on diverse factors such as geographical, socio- political, and economic considerations.

The research findings support the initial hypothesis that stock markets impact each other, particularly in the post-2000 era. This increased interdependence is attributed to the rise of 'cross holdings' and the dissolution of geographical barriers for investments. Automation of exchanges has also played a crucial role in global market integration. The study suggests that the strategy of globally diversifying investments is gradually losing its profitability, as markets are converging rapidly. The South East Asian currency crisis, if it occurred today, would likely have a more drastic effect on India due to increased synchronization with global markets.

Qualitatively, the comparison indicates that the Indian stock exchange has efficient governance systems and mechanisms, particularly in line with SEBI's Clause 49 and NSE's advanced trading and settlement systems. However, challenges in implementing these systems persist, with a significant percentage of listed companies yet to comply.

The study highlights the nascent stage of non-equity segments like commodities and derivatives, indicating that these segments are still evolving in comparison to global counterparts. Listing restrictions for foreign companies, distinct listing criteria, and variations in disclosure norms contribute to differences between Indian and global exchanges.

The research identifies factors such as risk appetite, lack of awareness, and cautious approaches to change as hindrances to the adoption of innovative financial instruments in India. The study recognizes that the Indian stock market is evolving and anticipates that it will take time to match global counterparts in terms of volumes, frequency, and variety of traded instruments.

Despite challenges, the study acknowledges the Indian stock market's credibility compared to its Asian counterparts, especially emerging economies. In terms of efficiency, the Indian trading and settlement mechanism is found to be faster than NYSE and on par with the best in the world.

Market capitalization emerges as a barrier, with India ranking 14th globally. While having the highest number of listed companies, the Indian market is considered small in volume. The study concludes that India's rank in market capitalization could be a significant factor in achieving global recognition.

In examining the influence of various stock markets on each other, the study divides the time period into segments based on economic events. The results affirm that markets, especially the Indian market, became more integrated with global exchanges post-2002-03. However, the impact of other stock markets on Indian exchanges remains low, suggesting a gradual but insignificant increase in influence.

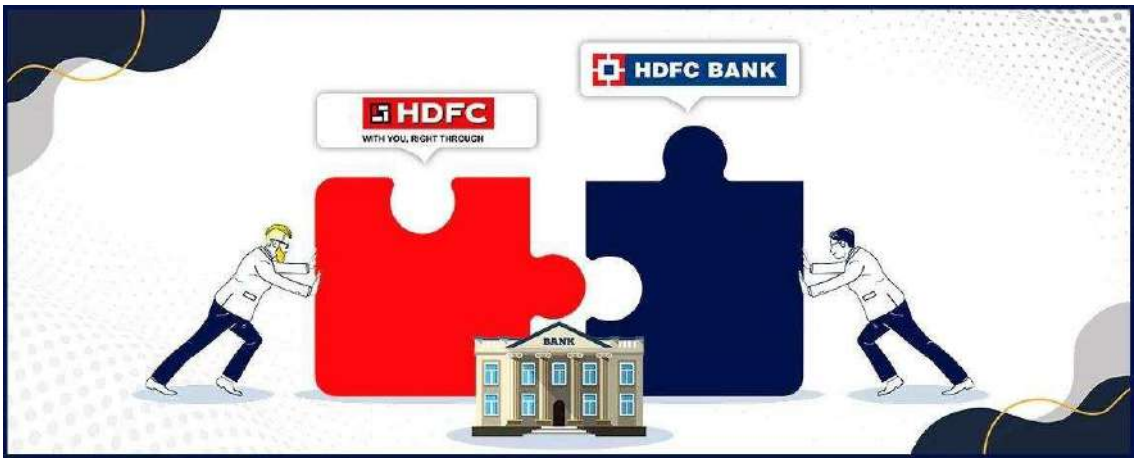
The study emphasizes the role of ADRs, GDRs, and increased cross-border flow of capital in facilitating integration. Despite the diminishing attractiveness of global diversification, the study suggests it can still be useful for investing in countries with low correlation among their exchanges.

In summary, the study provides a comprehensive analysis of the Indian stock market's position and performance compared to global counterparts, acknowledging strengths, identifying challenges, and shedding light on the ongoing process of integration and evolution in the Indian financial landscape.

HDFC Bank Merger: A detailed guide

-Rishav Raj

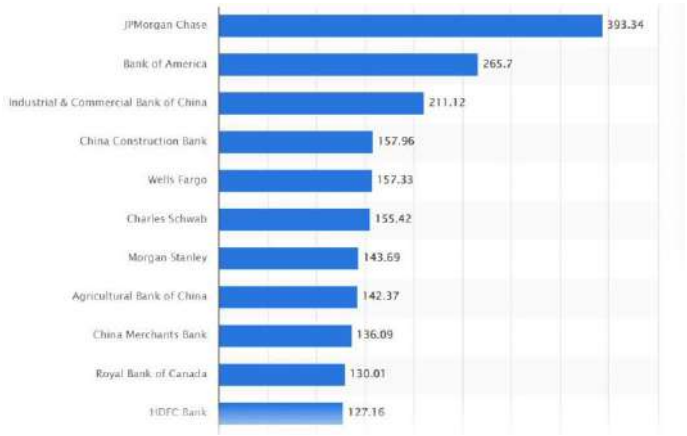
HDFC Bank will be the world's fourth largest from 1st July 2023.



Sounds like a proud moment as an Indian, right?

Look at the chart below of the top 15 market cap-wise banks (source: Statista). In December,2022 HDFC Bank was at the 11th place in the world with a market capitalisation of $127 billion.

Now, after the HDFC Ltd and HDFC Bank merger, the bank will jump to the fourth rank with a market capitalisation of over **$170 billion**



In the race with the world's top-notch banks like Morgan Stanley and Royal Bank of Canada, how will HDFC Bank outperform most of them?

At Insider, we are bringing a deep analysis of this merger, which will include the following:

- The merger details
- Why is the merger happening?
- Changes in the bank's fundamentals after the merger.

HDFC merger details

HDFC Ltd will be merged into HDFC Bank Ltd from July 1st, 2023, and on the same day, there will be only a single entity as HDFC Bank. The stocks of HDFC Ltd will be delisted from exchanges on July 13th, 2023.

After the merger, HDFC Ltd shareholders will receive 42 shares of HDFC Bank for every 25 shares held in HDFC Ltd.

When considering the shareholding pattern, it can be observed that HDFC Bank will be 100% owned by public shareholders. Furthermore, the current HDFC shareholders will retain approximately 41% ownership in the merged entity.

But…

Why is the merger happening?

Before talking about the reason behind the merger, let's first talk about both entities one by one.

HDFC Ltd started in 1977 as a housing finance company. Back then, the housing demand was present, but people were very cautious about borrowing money. When globalization started in the early 90s, people started taking individual and business loans, and demand for loan products had shot up.

The increased demand for loans prompted the establishment of HDFC Bank in 1994, and the bank started its operations as a scheduled commercial bank in January 1995.

Let's talk about HDFC Ltd first.

In the early 90s, the mortgage penetration in India was just 1% of the GDP, which has reached around 10.5% today. When we compare this with different Western countries, the same number represents a ratio of around 40% to 50%. Even China has a mortgage penetration of over 20% of the GDP. This shows that we, as a country, have a lot to catch up to.

In India, the typical age for first-time home buyers is 37, and around 2/3rd of the population is under the age of 35. This shows a consistent and inherent rise in demand from millions of new home buyers annually, reflecting both organic and structural growth factors.

During an interview with BQ Prime, Mr Ketki Mistry, the Vice Chairman and CEO of HDFC Ltd, discussed their primary objectives for HDFC when it started.

1. **To achieve a yearly increase of 1% in ROE:** They had been successfully achieving this target until their Life and General Insurance and Banking businesses took off

When the insurance business and banking business started to grow beyond a point, as a promoter, HDFC Ltd had to keep cash for many regulatory and risk management reasons, which then lowered the growth in ROE.

2. **To maintain a cost-to-income ratio below 10%:** This target has been achieved by very few financial institutions, not only in India but globally.

3. **To maintain exceptional asset quality:** Over the past four decades, the total individual loan losses accounted for a mere 0.04% of the total disbursals.

This was all about HDFC Ltd. Now, before talking about the reason behind the merger, let's shift our focus to the bank for a bit.

When we examine SBI, the largest bank of India, based on the size of its balance sheet, we observe that its balance sheet has been expanding at a CAGR of approximately 11.25% from FY19, reaching around ₹60 lakh crores.

Balance Sheet (All Figures are in Crores)

PARTICULARS	MAR 2019	MAR 2020	MAR 2021	MAR 2022	MAR 2023
Equity and Liabilities					
Share Capital	892.46	892.46	892.46	892.46	892.46
Total Reserves	2,33,603.20	2,50,167.66	2,74,669.10	3,04,695.58	3,58,038.86
Minority Interest	6,036.99	7,943.82	9,625.92	11,207.42	12,836.62
Deposits	29,40,541.06	32,74,160.63	37,15,331.24	40,87,410.60	44,68,535.51
Borrowings	4,13,747.66	3,32,900.67	4,33,796.21	4,46,159.78	5,21,151.95
Other Liabilities	2,93,642.82	3,31,427.10	4,11,303.62	5,07,517.68	5,92,962.92
Total Liabilities	38,88,464.20	41,97,492.34	48,45,618.55	53,60,883.53	59,54,418.32
Assets					
Balance with RBI	1,77,362.74	1,66,968.46	2,13,498.62	3,18,492.43	2,47,321.05
Balance with Banks	48,149.52	87,346.80	1,34,208.42	80,412.69	70,990.86
Investments	11,19,289.82	12,28,284.28	15,95,100.27	17,76,489.90	19,13,107.86
Advances	22,26,853.67	23,74,311.18	25,00,598.99	27,94,076	32,67,902.13
Net Block	39,940.76	39,608.41	39,698.61	39,229.50	44,023.81
Other Assets	2,76,125.40	3,00,503.45	3,62,045.47	3,51,902.48	4,10,689.04
Total Assets	38,88,464.20	41,97,492.34	48,45,618.55	53,60,883.53	59,54,418.32

But…

If we talk about the balance sheet of HDFC Bank, the balance sheet size is around ₹35 lakhs crores, which is growing much faster than SBI at a CAGR of around 28% from FY19.

It seems, in a very brief moment, with this merger, HDFC Bank is set to overtake SBI.

As both HDFC and HDFC Bank experienced significant growth over time, it became inevitable for the merger to occur. Because HDFC was only providing housing loans, and the bank was providing everything else other than housing loans.

But how would this change the bank's fundamentals? Changes in HDFC Bank's fundamentals after the merger

After the merger, HDFC Life and General Insurance, HDFC AMC, and HDFC Capital Advisers will become subsidiaries of HDFC Bank, while HDFC Bank and HDFC Ltd will combine to form a single entity.

This will lead to a significant rise in the total assets and deposits of the bank. The total loan disbursals will see a tremendous amount of rise because the housing loans of HDFC Ltd will come under the bank's loan disbursals.

Because of the merger, cross-selling among the products will increase and then revenue will again shoot up for both the bank and its subsidiaries.

Currently, HDFC Bank has over 8 crore customers, out of which only 2 % took housing loans from HDFC Ltd, and 5% took them from other banks. The remaining 93% of customers have not taken any housing loan.

Now, with the merger, the bank can now offer housing loans to the remaining 93% of the customers more aggressively. Also, the number of HDFC Bank accounts of the customers of HDFC Ltd is very low, which will again go significantly up after the merger.

As a result of cross-selling opportunities within its subsidiaries, such as HDFC Life or HDFC AMC, the Bank is expected to witness a rise in the number of deposit accounts.

The Bottom Line

HDFC is easily one of the strongest financial institutes in the country, and this merger is only set to bolster its position. The merger will also give HDFC a stronger bargaining position as a financial service provider.

While this position of being a market leader is not something to be worried about, owing to the regulations in the banking industry, the investors in the bank are likely to benefit from the acquisition of this position.

***Disclaimer: The stocks and companies discussed above aren't a recommendation from me and shall not be construed as a replacement for professional advice. Consult a professional or conduct the necessary research before making investment decisions.**

Performance of Indian Mutual Funds in Comparison to Selected Global Hedge Funds: An Empirical Study

-Aditya Malviya

Mutual funds have played a pivotal role in India's financial landscape since the establishment of the Unit Trust of India (UTI) in 1963. The sector underwent significant growth with the entry of public-
sector banks and private players in 1987 and the 1990s, respectively. Regulated by the Securities and Exchange Board of India (SEBI), the mutual fund industry has evolved with streamlined categories and enhanced investor protection measures, including stringent disclosure norms and Know Your Customer (KYC) requirements.

In contrast, hedge funds cater to high-net-worth individuals and institutions globally, employing diverse strategies like short selling and leverage for absolute returns. Originating in the mid-20th century, hedge funds have transformed into sophisticated entities, with regulatory frameworks varying across jurisdictions. In the U.S., the Securities and Exchange Commission regulates hedge funds under the Investment Advisers Act of 1940.

The table below summarizes the distinctions between hedge funds and mutual funds, emphasizing placement conditions, return targets, investor profiles, liquidity, transparency, and fees.

Points	**Hedge Funds**	**Mutual Funds**
Placement conditions	Free	Limited
Return target	Absolute	Relative
Number of owners	Few	Many
Investors	Pension & endowment fund, wealthy investors	Retail investors
Liquidity	Limited	High
Transparency	Disclosure for investor only	Reports disclosed annually
Fees	Performance and fixed based	Fixed

Table 1. Difference between Mutual Funds and Hedge Funds

While mutual funds provide a simplified entry for retail investors with relative return targets and high liquidity, hedge funds target a select clientele with absolute return goals and may have limited liquidity. Overall, mutual funds and hedge funds serve diverse investor needs, with the former
prioritizing accessibility and regulatory compliance, and the latter focusing on sophisticated strategies for exclusive investors.

Performance of Mutual Fund and Hedge Fund

Mutual Fund in India:

Mutual Fund SIP accounts stood at 7.44 CRORE! And the total amount collected through SIP during November 2023 was ₹17,073 crore.

Currently, there are over 44 registered mutual funds in India, offering different schemes to satisfy the dynamic needs of diverse investors. The different types of mutual funds available can be classified broadly based on structure, asset class, and investment goals.

The AUM of the Indian MF Industry has grown from ₹8.34 trillion as on October 31, 2013 to ₹46.72 trillion as on October 31, 2023 more than 5-fold increase in a span of 10 years.

Hedge Funds:

In recent months, global hedge funds have seen stronger returns as a result of the robust rebound in risk assets, especially equities. From 2019 to 2021, global hedge funds saw yearly gains of 9.27%, 13.20%, and 9.37%, respectively, which was their highest three-year performance since 2007. When the COVID-19 epidemic started, governments were forced to temporarily stop the activities of non-essential enterprises in an effort to stop the virus's spread, which led to a global economic shutdown. To help their economies recover from the crisis, governments and central banks pumped enormous amounts of economic stimulus. Since March 2020, the US government has pumped almost $6 trillion, and the Federal Reserve has reduced its policy rate to zero and relaunched its quantitative easing program. Global economic authorities' coordinated actions provided a boost to the performance of world stocks. Since the end of March 2020, the S&P 500 has returned an aggregate of 84.40%, while the tech-heavy NASDAQ Composite has increased by 103.17% during the same time frame. With their respective returns of 13.56% and 13.14% in 2021, event-driven and distressed debt hedge funds are the top performing investing strategies. The Hedge Fund Industry by assets under management value is expected to grow from USD 4.60 trillion in 2023 to USD 5.37 trillion by 2028, at a CAGR of 3.14% during the forecast period (2023-2028).

	Emerging Markets	North America	Europea n	China	Australia	Asian
No. of Constituents	251.00	424	294	64	27.00	198
Annualised Return (%)	10.38	8.80	6.29	12.24	9.09	7.02
Best Monthly Return (%)	8.27	6.54	9.17	16.60	6.64	7.71
Worst Monthly Return (%)	-10.16	-7.65	-8.35	-9.36	-12.03	-7.21
Return Since Inception (%)	960.22	651.89	329.93	1481.23	700.26	406.23
Last 3 Months (%)	-0.96	1.49	0.60	-2.78	-2.67	-1.74
2023 Returns (%)	3.64	7.65	4.57	-5.67	-0.35	-0.71
2022 Returns (%)	-3.36	-6.89	-6.13	-10.58	-4.19	-8.75

Sharpe Ratio	0.99	1.12	0.70	0.76	0.93	0.66
Annualised Standard Deviation (%)	8.45	6.05	6.08	13.52	7.60	7.55
Downside Deviation (%)	5.26	3.57	3.93	7.94	4.97	4.88
Sortino Ratio	1.59	1.91	1.09	1.29	1.43	1.03
Maximum Drawdown (%)	-25.62	-11.93	-18.82	-34.96	-23.13	-25.54
Percentage of Positive Months (%)	67.94	71.78	66.90	64.81	69.34	63.07

Table 2: Performance Statistics of Hedge Funds of selected regions as on Nov,2023

Interrelationship between Indian Hedge Funds and Indian Equity Market

The interrelationships between Indian Mutual Funds have to be studied with Global Hedge Funds Market**.** Now, the interrelationship between Mutual Funds and Global Hedge Funds been calculated on the basis of total observation of monthly return for the period of Oct 2010 Aug 2023 by conducting correlation analysis. The results have been displayed in Table 3.

	Emerging Markets	*North America*	*European*	*China*	*Australia*	*Asian*
HDFC Mid-Cap Opportunities Fund(G)	0.569578827	0.493251566	0.560053765	0.277915519	0.513873424	0.500127376
ICICI Pru Bluechip Fund(G)	0.6400	0.5917	0.6422	0.3237	0.6025	0.5697
Kotak Flexicap Fund(G)	0.6004	0.5368	0.6017	0.2834	0.5504	0.5217
Nippon India Small Cap Fund(G)	0.5043	0.4559	0.5246	0.2257	0.4921	0.4474
Mirae Asset Large Cap Fund-Reg(G)	0.6306	0.5708	0.6304	0.3303	0.5752	0.5673
Axis Bluechip Fund- Reg(G)	0.5696	0.5128	0.5709	0.2852	0.5280	0.5177

Table 3: Correlation between Indian Mutual Funds and Global Hedge Funds

Regression Analysis

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-6.8E-05	0.001827	-0.03723	0.970351	-0.00368	0.003543	-0.00368	0.003543
Emerging Markets	0.003053	0.002017	1.513507	0.132298	-0.00093	0.00704	-0.00093	0.00704
North America	0.002988	0.0024	1.244847	0.215169	-0.00176	0.007731	-0.00176	0.007731
European	0.001135	0.002866	0.396113	0.692596	-0.00453	0.006798	-0.00453	0.006798
China	-0.00058	0.002076	-0.27806	0.781358	-0.00468	0.003525	-0.00468	0.003525
Australia	0.001701	0.001562	1.088722	0.278058	-0.00139	0.004788	-0.00139	0.004788
Asian	-0.00204	0.004675	-0.4364	0.663184	-0.01128	0.007198	-0.01128	0.007198
India	0.010036	0.000707	14.20034	2.33E-29	0.008639	0.011433	0.008639	0.011433

Table 4: Regression Analysis between Nifty 100 (dependant) and Global Hedge Funds (independent)

Multiple R (Correlation Coefficient): 0.77 indicates a strong positive correlation between the independent and dependent variables.

R Square (Coefficient of Determination): 0.59 suggests that approximately 59% of the variability in the dependent variable is explained by the independent variables.

Adjusted R Square: Adjusts R Square for the number of predictors, giving 0.57, suggesting that the model is still reliable even when accounting for the number of variables.

Standard Error: 0.0322 is the standard deviation of the residuals, providing a measure of the model's accuracy. Observations: 155 data points were used in the analysis. ANOVA (Analysis of Variance): ANOVA tests the hypothesis that all the regression coefficients are equal to zero versus at least one differs. Regression df (degrees of freedom): 6, representing the number of predictors. Residual df: 148, representing the degrees of freedom for error. SS (Sum of Squares): 0.2170 is the sum of squared differences between the predicted and actual values. MS (Mean Square): 0.0362 is the average of the sum of squares. F (F-statistic): 34.86 is a test statistic for the overall significance of the model. Significance F: 4.86E-26 is the p-value associated with the F-statistic, suggesting strong evidence against the null hypothesis that all coefficients are zero.

Hypotheses:

Null Hypothesis (H0): The null hypothesis typically states that there is no relationship or no effect (all coefficients are zero).

Alternate Hypothesis (H1): The alternate hypothesis suggests that there is a significant relationship (at least one coefficient is not zero).

In simpler terms, the model as a whole is statistically significant (as indicated by the small p-value in the ANOVA table), suggesting that at least one of the independent variables has a significant effect on the dependent variable. The coefficients for each variable provide insights into the direction and magnitude of their impact.

ANOVA

df		*SS*	*MS*	*F*	*Significance F*
Regression	7	0.305815	0.043688	99.19356	1.89E-52
Residual	147	0.064743	0.00044		
Total	154	0.370558			

Table 4.1: Anova Analysis between Nifty 100 (dependant) and Global Hedge Funds (independent)

Coefficients: The coefficients represent the slopes of the regression line. Intercept: Represents the estimated value of the dependent variable when all independent variables are zero. Emerging Markets: Positive coefficient indicates a positive relationship with the dependent variable. North America: Negative coefficient suggests a negative relationship, though it is not statistically significant at the 0.05 significance level. European, China, Australia, Asian: Coefficients and significance levels for these variables indicate their respective impacts on the dependent variable.

Conclusion

The performance of Indian Mutual Funds and hedge funds of Asia, Emerging market, Australia, China, and north America and European Hedge Funds been analysed in this study, based on data collected from Eurekahedge and Ace Mutual Fund. It is observed that the performance of Global hedge funds(listed six hedge funds regions) is significantly behind the performance of the above Six mutual funds. It is also observed that there exists a positive correlation between Indian Hedge Funds and Indian Equity Market. Geographic funds display mixed returns, with North America leading at. Investors should assess risk tolerance and historical performance for informed decision-making in this dynamic investment landscape.

In conclusion, investors may find opportunities in both mid-cap and blue-chip funds, with a diversified approach across regions, especially focusing on emerging markets like North America. The statistical performance metrics offer insights into fund growth and stability, aiding investors in making informed decisions tailored to their risk preferences and financial goals.

An Analysis of ALM Gap Management Strategies in Banks

-Saurabh Deshmukh

Banks, as inherently risk-taking organizations, cater to diverse clientele needs in deposits and borrowing. Managing exposures in terms of timing, volume, and currency is crucial. Asset-Liability Management (ALM) in banks focuses on capital, funding, liquidity, and interest-rate risk. The ALM function encompasses various aspects:

1. Management of Liquidity Risk:

- Ensures a bank's ability to pay debts on time.
- Monitors liquidity levels and anticipates changes under different scenarios.

2. Currency Risk:

- Increased volatility due to floating exchange rates.
- Currency mismatches can impact value based on fluctuations.

3. Interest Rate Risk:

- Arises from the gradual deregulation of interest rates.
- Impacts a bank's earnings, market value of equity, and net interest margin.

4. Gap Analysis

- Measures mismatches between rate-sensitive assets and liabilities over different time periods.

5. Duration Model:

- Crucial indicator considering the maturity and timing of cash flows.

6. Value At Risk:

- Determines the highest anticipated loss a bank may experience over a target horizon.

7. Simulation:

- Utilizes dynamic components to analyze interest rate risk scenarios.
-
-

Theoretical Framework of the Study:

Strategic Framework: ALM should be proactive, acting as a catalyst for business strategies. Organizational Framework: Clearly defines roles and responsibilities for optimal performance. Framework for Analysis: Utilizes analytical concepts like gap analysis, simulation, duration, and value at risk.

Technological Framework: Involves high-quality software for thorough analysis and planning. Operational Framework: Requires a well-documented ALM procedure and policy statement. Performance Management Framework: Focuses on profitability through assets, liabilities, and ALM. Information Reporting Framework: Ensures relevant information is provided to each level of management.

Regulatory Compliance Framework: Ensures compliance with regulatory requirements. Control Framework: Establishes checks and balances for accuracy and compliance.

Statement of Problem:

- The liberalization of financial markets has increased the complexities and risks in banking operations.

- Effective risk management, especially through comprehensive ALM practices, is crucial for banks.

Literature Review:

- Studies highlight efforts to limit resource responsibility jumbles and the need for effective ALM practices.

- Basel II norms focus on capital requirements for managing risks in the banking industry.

- Research compares liquidity ratios and ALM practices of top banks, emphasizing short-term liquidity positions.

Objective of the Study:

- Assess the efficiency of current ALM functions by examining asset and liability sensitivity in Indian banks.

The study reviews existing literature, emphasizing the importance of ALM in managing risks and 09ensuring financial stability in the banking sector.

Research Methodology:

The study employs various methods, including the analysis of balance sheet elements, focusing on risk-sensitive assets and liabilities. It evaluates global banks' capital management, emphasizing
parameters like interest rate and liquidity risk. The impact of the new regulatory landscape, particularly Basel III, on banking strategy and operating models is examined through secondary research on existing trends and strategies in balance sheet management.

Research Objective:

The research aims to assess the stability of fundamental concepts in Asset Liability Management
(ALM) and Balance Sheet Management. It investigates the influence of Basel III on global standards for bank capital, liquidity, and leverage, exploring its significant impact on how banks manage and optimize their balance sheets. Additionally, the study examines contemporary ALM methods and strategies.

Conclusion

In conclusion, capital adequacy is crucial for mitigating moral hazard and fostering competitiveness in the banking industry. It plays a vital role in minimizing various risk components, safeguarding
depositors, and supporting internal operations and expansion. Economic conditions impact the available capital, and its sufficiency helps absorb shocks and reduce bank failures. Asset-Liability Management is pivotal for financial institutions, with banks striving to maximize yield while minimizing risk. The Reserve Bank of India has issued guidelines to regulate asset-liability positions
for maintaining financial system stability. Resource responsibility management is considered essential for risk management in banks. A study on 10 commercial banks from 2015 to 2018 reveals that Capital Adequacy Ratio (CAR) and Return on Assets (ROA) do not significantly correlate with Net
Interest Margin (NIM). Furthermore, the assets and liabilities of SBI, Bank of India, Citibank, and ICICI Bank vary significantly.

Analyzing Financial Ratios for Identifying High-Performing Stocks

-Anurag Bajpayee

Introduction:

Investing in stocks, particularly aiming for multibaggers, has become a focal point for many in the financial realm. The allure of turning a small investment into a substantial fortune often leads investors on a quest for stocks poised for exponential growth. However, navigating the stock market's complexities necessitates a deeper understanding of fundamental analysis.

This article embarks on a journey to uncover the relationship between financial ratios and the elusive multibagger stocks within the Bombay Stock Exchange (BSE). It delves into the significance of financial metrics, highlighting their role in identifying potential high-growth stocks.

Understanding Stock Market Risks and Returns

Before delving into the nuances of stock analysis, it's imperative to acknowledge the inherent risks associated with the stock market. While investing in stocks offers avenues for wealth creation, it also entails volatility and uncertainties. Investors must grasp these risks to calibrate their investment
strategies accordingly.

The Significance of Financial Ratios in Stock Analysis

Financial ratios stand as powerful tools enabling investors to assess a company's financial health and performance. They offer insights into profitability, operational efficiency, leverage, and growth potential. Understanding these ratios empowers investors to make informed decisions, identifying stocks with promising growth trajectories.

Methodology

Our study meticulously examined BSE-listed companies, selecting 27 samples based on stringent criteria. These criteria involved a deliberate exclusion of stocks demonstrating significant declines,
focusing on those exhibiting sustained growth or resilience. Factors such as Sales CAGR, PAT CAGR, ROCE, ROE, Net Profit Margin, Interest Saving Ratio, and Leverage were scrutinized to identify multibagger potential.

Independent Variables in Analysis

Sales CAGR, Profit After Tax (PAT) CAGR, Return on Capital Employed (ROCE), Return on Equity (ROE), Net Profit Margin, Interest Burden, and Financial Leverage emerged as pivotal independent variables. Each metric provided unique insights into a company's financial standing, aiding in evaluating growth prospects and profitability.

Sales CAGR - Reflecting annual sales growth, a higher Sales CAGR indicates robust expansion potential and market competitiveness.

PAT CAGR - Illustrating annual profit growth, a higher PAT CAGR signifies effective cost management and revenue generation.

ROCE - Assessing capital efficiency, a higher ROCE implies optimal utilization of invested capital.

ROE - Measuring returns on shareholder equity, a higher ROE signifies efficient use of equity for generating profits.

Net Profit Margin - Depicting profitability, a higher margin indicates efficient cost management and revenue retention.

Interest Burden & Financial Leverage - Highlighting the impact of debt on profitability and amplification of returns through leverage.

Correlation Analysis

Examining the interplay between these variables revealed intriguing relationships. Positive correlations between Price and Sales CAGR underscored the alignment between sales growth and stock valuation. Conversely, negative correlations with factors like Interest Burden and Financial Leverage highlighted their impact on stock prices.

Regression Analysis

With an R-squared value of 90%, the regression analysis demonstrated the significant impact of certain variables, notably Sales CAGR, on stock prices. However, other variables required nuanced consideration due to their lesser statistical significance.

Conclusion

The study reaffirms the pivotal role of financial ratios in identifying potential multibagger stocks. By leveraging these metrics, investors gain insights into a company's growth potential, profitability, and financial stability, aiding in prudent investment decisions. Nevertheless, comprehensive evaluate encompassing industry trends and qualitative aspects remains paramount for maximizing investment returns.

Appendices:

	Price	Sales CAGR	PAT CAGR	ROCE	ROE	Net Profit Margin	Interest burden	Financial Leverage
Price	1							
Sales CAGR	0.902431067	1						
PAT CAGR	-0.048981361	-0.158285205	1					
ROCE	-0.172540922	-0.07493715	0.303136407	1				
ROE	-0.229794374	-0.244839882	-0.115071067	0.521902185	1			
Net Profit Margin	-0.149120025	-0.010206668	0.549435692	0.485435736	0.116388819	1		
Interest burden	-0.436183234	-0.461097985	0.04907093	0.470048454	0.071258927	-0.188521216	1	
Financial Leverage	-0.378012175	-0.425737188	0.045519907	-0.32451907	0.233116897	-0.040141364	-0.354180387	1

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.95098
R Square	0.904363
Adjusted Square	R0.869128
Standard Error	9.747538
Observations	27

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	7	17071.04	2438.72	25.66682131	2.1E-08
Residual	19	1805.275	95.0145		
Total	26	18876.32			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	19.58502757	14.72309061	1.330225296	0.200053479	-11.347038	50.51709313	-11.347038	50.51709313
Sales CAGR	0.704252466	0.102593078	6.864522245	2.01597E-06	0.488712407	0.919792525	0.488712407	0.919792525
PAT CAGR	0.053969499	0.023277391	2.318537241	0.032388227	0.005065514	0.102873483	0.005065514	0.102873483
ROCE	0.158791032	0.291366802	0.5449867	0.592451802	-0.453347904	0.770929967	-0.453347904	0.770929967
ROE	0.039826183	0.101853987	0.391012513	0.700377582	-0.174161102	0.253813468	-0.174161102	0.253813468
Net Profit Margin	-0.114938281	0.049542289	-2.320003422	0.032291991	-0.219022768	-0.010853793	-0.219022768	-0.010853793
Interest burden	-35.19980595	32.69622491	-1.076570951	0.29589014	-103.8920255	33.49241359	-103.8920255	33.49241359
Financial Leverage	-2.519805166	2.663723542	-0.945970979	0.356690192	-8.116080666	3.076470333	-8.116080666	3.076470333
Asset turnover	-11.5040234	3.53720582	-3.252291211	0.004423027	-18.93541707	-4.072629733	-18.93541707	-4.072629733

Revolutionizing Financial Security: The Impact of RegTech on Anti-Money Laundering Compliance in India

-Aatish Chaurasia

In a rapidly evolving financial landscape, the fusion of regulatory technology (RegTech) with anti- money laundering (AML) compliance emerges as a pivotal solution. The research paper, "Anti Money Laundering Compliance Through Reg-Tech," authored by Aatish Chaurasia, delves into the transformative potential of RegTech in safeguarding India's financial markets. Under the guidance of Dr. Kirti Arekar, this paper explores the dynamic interplay of technology, regulation, and financial security.

Abstract: Financial markets worldwide, including India, face significant threats to their integrity. This study focuses on the application of RegTech in India, employing artificial intelligence, machine learning, and blockchain to fortify risk management and financial security. The research scrutinizes the challenges faced by regulators and financial institutions in combating money laundering, emphasizing the necessity for adaptable solutions. The primary objective is to assess the impact of RegTech solutions on the Indian financial sector, analyzing their cost-effectiveness, efficiency, and integration into the existing financial system.

Introduction: In the wake of global challenges, innovative approaches become imperative across various sectors, including finance. The ongoing COVID-19 pandemic has necessitated a paradigm shift in traditional banking practices, emphasizing the significance of technology in ensuring operational continuity. This paper explores the confluence of financial technology (Fintech) and RegTech,recognizing their pivotal roles in addressing contemporary challenges and advocating for a robust regulatory framework.

Literature Review: The literature review underscores the evolving landscape of AML compliance and customer onboarding processes. Acknowledging the inherent complexities in these tasks, the study highlights the potential of RegTech to revolutionize these processes through automation, reducing costs, and enhancing risk analysis. By examining the specific nuances of money laundering in India, the paper provides a comprehensive view of the challenges faced and the opportunities presented by RegTech solutions.

Research Methodology: This qualitative study employs in-depth literature reviews and content analysis of various sources to comprehensively understand the role of RegTech in mitigating money laundering risks in India. The research methodology aims to go beyond examining existing technologies, delving into broader concerns, and identifying potential barriers to adoption. The study seeks to contribute to the development of a conceptual model for the application of RegTech in India's unique financial ecosystem.

Conclusion: In conclusion, the paper asserts that the growth of the Fintech sector, coupled with regulatory advancements in the form of RegTech, is crucial for ensuring the efficiency and security of financial systems in India. With a focus on digital payments, the study suggests that the government's push for a less-cash economy accelerates the adoption of digital solutions, creating opportunities for Fintech startups to flourish across various financial services.

Unveiling the Price Chain: Base Metals, Auto Parts, and Car Manufacturers

-Ganpathi DVK

The intricate dance between base metals, auto parts suppliers, and car manufacturers shapes the very rhythm of the automotive industry. While previous research explored the link between base metals and car prices, this paper delves deeper by analyzing the price correlations within this ecosystem, offering a comparative lens between domestic Indian and foreign players.

Focusing on the past five years, the study utilizes linear regression to gauge the relationships between:

- Base metals and auto parts suppliers: Examining how rising metal costs impact the prices of parts produced by domestic and foreign companies.
- Auto parts suppliers and car manufacturers: Investigating how suppliers pass on cost increases to their customer car companies.

As per cost pass through economics:

- The passthrough ability depends on elasticity of demand and supply.
- Passthrough rate:Ratio between the change in costs and the change in prices.
- In the perfectly inelastic demand case (consumers have to have the good whatever the price is), a cost shock will be passed to consumers in its entirety (full pass-through, passthrough rate will be equal to 1.0).
- In the case of a perfectly elastic demand (consumers ready to abandon the market if faced with any price increase), producers will be forced to fully absorb the shock (pass-through rate 0.0)

Though the prices of the goods manufactured does depend on firm size, quality, quantity and branding, it is the raw material prices that forms beginning part pricing any finished good.The Auto and Auto ancillary sector beign a commodity intensive business,it would be imperative that raw material cost will be the major driving factor for auto companies prices. With the help of R-Squared and F-Statistic,one identify the price pass on and elasticity behaviour.

R-Squared which is a statistical measure in a regression model that determines the proportion of variance in the dependent variable(Y) that can be explained by the independent variables(X). There will be two models:

Model 1 : Y (Spare part company price) as a function of X(Prices of base metals) Model

2 : Y (Automobile company price) as a function of X(Spare part company price)

If the R square is minimal with insignificant F statistic, this means base metal prices cannot explain spare part company prices. This means producers of metal are absorbing the price rises to sell their produce.

If model turns out with significant F statistic with appreciable R square, This means a cost rise is being partially passed to consumers.

Domestic Market Dynamics:

The study reveals surprising findings within the Indian market:

- Insulated auto parts suppliers: Base metal price fluctuations have minimal to no impact on domestic auto parts companies. This is primarily due to:
    - Fixed-price contracts: Most suppliers secure fixed-price agreements with commodity suppliers, Thus producers absorbing price rises ie elastic demand.
    - Price-insensitive (inelastic) demand: The domestic market for spare parts exhibits price insensitivity due to monopolistic and oligopolistic market. This allows suppliers to maintain fixed margins with auto companies regardless of base metal costs.
- Significant supplier impact on car prices: Auto parts suppliers exert a substantial influence on car prices, explaining 18-37% of their variation. This suggests that suppliers primarily focus on fixed profit margins, readily passing on cost increases to car manufacturers.
- Limited impact of base metals on car prices: Despite the significant influence of suppliers, base metal prices themselves have little impact on car prices. When considering both base metals and supplier prices, the R-square remains within the same range (18-37%). This implies that car manufacturers and spare part companies, prioritize profit margins over price adjustments. and some point in time producers would not be able to absorb further prices, leaving no choice for consumer to pass on the price. This leads to inflationary pressures. The only thing which can protect the margins is to have hedging through commodity derivatives for longer period maturities, which is unfortunately not seen as per their annual reports of Spare part companies and Auto Companies. Only Forex hedging contracts are present as per their derivative hedging disclosures.
- This shows that for manufacturers are more concerned with Currency risk more than commodity price risks.

Foreign Market Dynamics:

Contrasting with the Indian scenario, the foreign market displays a marked difference:

- Commodities like in Aluminum, Nickel, Copper, Platinum, Palladium and few ferrous & non ferrous commodities do have impact on spare part companies,The R square between Spare parts and metals prices is around 4% to 12%.
- High impact of base metals on entire chain: Base metal prices significantly influence both auto parts suppliers and car manufacturers in foreign markets. The R-square for car prices as a function of both base metals and supplier prices falls within the range of 44-62%.

- This suggests a higher price inelasticity and lower price absorbtion throughout the chain, with base metal fluctuations impacting all players more directly.
- As per the annual reports of Spare part companies and Auto Companies, Spare part companies do use commodity derivatives for hedging but not actively. Auto companies have commodity forward hedges in Aluminum, Nickel, Copper, Platinum, Palladium and few ferrous & non ferrous commodities as per their derivative hedging disclosures.

Key Takeaways:

The analysis offers valuable insights into the complex interplay between base metals, auto parts suppliers, and car manufacturers:

- Demand elasticity dictates pass-through: Price-sensitive demand in the domestic spare parts market leads to fixed-price contracts and limited base metal impact. Conversely, the price-insensitive nature of foreign markets facilitates a stronger pass-through of base metal costs throughout the chain.
- Market structure influences supplier behavior: Monopolistic and oligopolistic tendencies in the domestic market allow suppliers to maintain fixed margins, limiting the downward pressure of base metal cost decreases.
- Foreign markets take commodity price fluctuation seriously: Both Spare part companies and Auto companies do sensitivity analysis ,which show the effect on earnings after tax of changes in risks of variable commodity prices.
- This comparative study sheds light on the nuanced price correlations within the automotive ecosystem. Understanding these dynamics, including the contrasting approaches of domestic and foreign players, empowers stakeholders to make informed decisions regarding pricing policies and navigating the fluctuations of this vital industry. It emphasizes the critical concepts of price elasticity, pass-through rates, and market competition, offering a clear comparative lens between domestic and foreign dynamics with referencing hedging strategies.

Unveiling Volatility: Decoding India VIX for Enhanced Options Strategies

-Kaustubh Mhaisane

Introduction:

Volatility is a key player in financial markets, influencing investment decisions and shaping risk management strategies. The India Volatility Index (India VIX) stands as a crucial measure of market sentiment in the Indian stock market. This article delves into the dynamics of India VIX, offering insights into optimizing options strategies for improved risk-adjusted returns.

Methodology:

1. **Data Collection:** Gather historical data for India VIX, major market indices like NIFTY 50, and options prices. This data is fundamental for various analyses.
2. **Correlation Analysis:** Explore correlations between India VIX and market returns, understanding how these correlations evolve during different market conditions.
3. **Options Strategy Back testing:** Utilize historical data to back test traditional options strategies, calculating key performance metrics such as risk-adjusted returns, drawdowns, and volatility of returns.
4. **Enhanced Strategies Development:** Propose advanced options strategies incorporating India VIX signals. Implement dynamic entry and exit rules based on volatility thresholds, focusing on weekly closing prices to create a robust dataset.

Deriving Nifty Price Range Based on India VIX:

Nifty Range Calculation: Develop a methodology for calculating the Nifty price range based on India VIX percentage, using the formula: Nifty Range = Nifty Price - (Duration * VIX%) to Nifty Price + (Duration * VIX%). Analyse to identify valid ranges where the next Thursday's closing price falls within the calculated range.

Performance Metrics: Historical performance analysis from 2008 to the present reveals a remarkable 74% success rate in back testing results. The strategy consistently predicted Nifty's closing range, showcasing its adaptability to diverse market conditions.

Back testing: Back testing involves the collection of closing price data for Nifty and India VIX. Using this data, we calculate the Nifty range on Thursdays and subsequently examine the closing values of Nifty on the following Thursday. Our back testing, spanning from 2008 to the present, indicates that 74% of the time, the closing values of Nifty fall within the previously calculated range. This methodology provides insights into the historical performance of our strategy, demonstrating a consistent 74% success rate in predicting Nifty's closing range over the years

Thursday	753
TRUE	590
FALSE	207
Total	797
Accuracy	74%

Date	Close	Close	Vix Root	Upper Range	Lower Range	Backtest
05-06-2008	4676.95	30.32	4.2	4,873.60	4,480.30	
12-06-2008	4539.35	29.23	4.1	4,723.35	4,355.35	TRUE
19-06-2008	4504.25	32.32	4.5	4,706.13	4,302.37	TRUE
26-06-2008	4315.85	32.85	4.6	4,512.46	4,119.24	TRUE
03-07-2008	3925.75	36.26	5.0	4,123.15	3,728.35	FALSE
10-07-2008	4162.2	32.17	4.5	4,347.88	3,976.52	FALSE
10-08-2023	19543.1	11.4	1.6	19,852.06	19,234.14	TRUE
17-08-2023	19365.25	12.24	1.7	19,693.95	19,036.55	TRUE
24-08-2023	19386.7	11.7	1.6	19,701.25	19,072.15	TRUE
31-08-2023	19253.8	12.0625	1.7	19,575.87	18,931.73	TRUE
07-09-2023	19727.05	10.8725	1.5	20,024.48	19,429.62	FALSE
14-09-2023	20103.1	11.3175	1.6	20,418.61	19,787.59	FALSE

Options Trading Strategies:

Implement a strategy based on selling at-the-money call and put options when the calculated Nifty Range using India VIX suggests a certain range for the Nifty index. This strategy resembles a Straddle, involving selling both an at-the-money put and call.

- **Expected Range:** Based on India VIX and market analysis, estimate a range within which you expect Nifty to trade until options expire.
- **Choosing Strike Prices:**

Out-of-the-Money (OTM) Options:

For calls, buy above the current Nifty level and sell even higher. For

puts, buy below the current Nifty level and sell even lower.

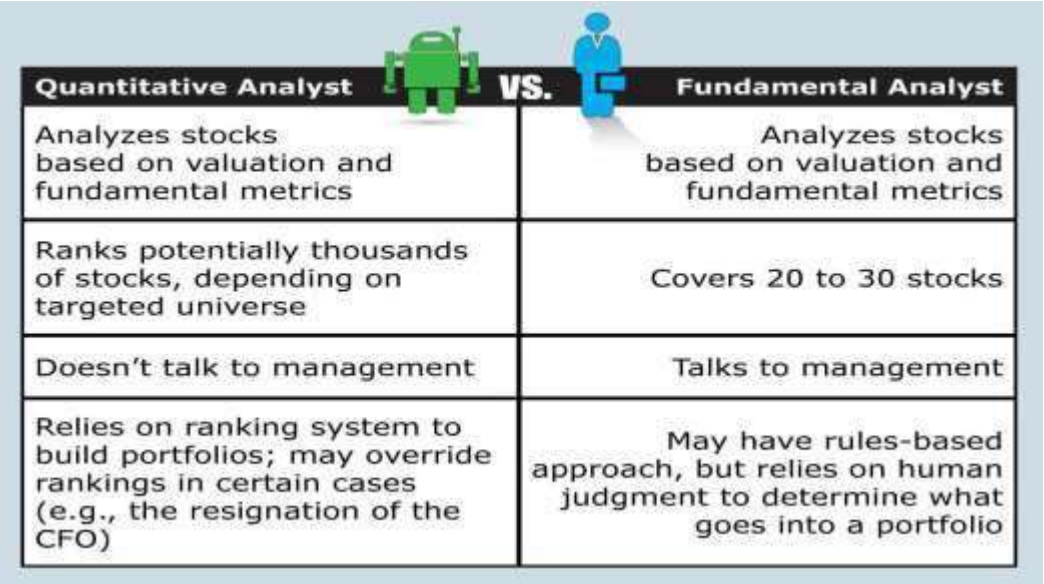
Conclusion:

This article explores the evolution, significance, and applications of India VIX in options trading and risk management. The research establishes a strategy using India VIX for predicting Nifty price ranges, achieving a consistent 74% success rate in historical back testing. Practical applications for options trading, including risk assessment and strategy formulation, highlight the potential of integrating India VIX into trading practices for enhanced outcomes. Mastering options trading requires a nuanced understanding of volatility, and India VIX emerges as a valuable tool in this endeavour.

Optimizing Stability: A Strategy for Minimized Risk in Equity Portfolios

-KHUSHAL KUMAR SETHIA

Exploring innovative risk mitigation strategies in the dynamic Indian stock market, this research emphasizes quantitative data over traditional fundamental analysis. By leveraging financial ratios, historical data analysis, and proactive risk management techniques, the study aims to provide investors with a comprehensive framework for optimizing stability and minimizing risk in equity portfolios.



Quantitative Analyst	VS.	Fundamental Analyst
Analyzes stocks based on valuation and fundamental metrics		Analyzes stocks based on valuation and fundamental metrics
Ranks potentially thousands of stocks, depending on targeted universe		Covers 20 to 30 stocks
Doesn't talk to management		Talks to management
Relies on ranking system to build portfolios; may override rankings in certain cases (e.g., the resignation of the CFO)		May have rules-based approach, but relies on human judgment to determine what goes into a portfolio

In simple words it is an in-depth process which includes Macroeconomic, Economic, Industry and company analysis. This process also includes Qualitative and Quantitative analysis of companies. In this project we emphasised on Quantitative analysis of companies. Quantitative analysis involves the use of mathematical and statistical techniques to analyse financial data.

While existing literature extensively explores traditional fundamental analysis in equity portfolio optimization, there is a notable gap in research that systematically examines the exclusive reliance on quantitative data and its effectiveness in enhancing stability and minimizing risk specifically within the context of the rapidly evolving Indian stock market. About 2000 stocks data were collected from Screener including their financial ratios. Then Parameters were taken to shortlist stocks from these 2000 stocks.

Parameters were :-

PE/IndPE Parameter 1	PB/IndPB parameter 1	Promoter Holding PARAMETER 50%	DE Parameter 35%	Sales growth Parameter 30%	EV/EBITDA Parameter 40	MCAP Parameter Above 500

Shortlisted stock were :-

Cons. Finvest
Crest Ventures
Intl. Conveyors
Jindal Poly Inve
Pilani Invest.
Star Health Insu
Zydus Wellness

Expected Return of these stocks were calculated based on peer comparison:-

		VALUATION	**INDUSTRY RATIO**	**Expected Return**	**WEIGHTS**	**ER*W**	
1	Cons. Finvest	P/B based	0.75	0.3814	0.142857	0.054486	
2	Crest Ventures	P/B based	0.9	0.1322	0.142857	0.018886	
3	Intl. Conveyors	PE based	22	0.12815	0.142857	0.018307	
4	Jindal Poly Inve	P/B based	0.8	0.30444	0.142857	0.043491	
5	Pilani Invest.	P/B based	0.3	0.3475	0.142857	0.049643	
6	Star Health Insu	PE/PS based	50	0.0848	0.142857	0.012114	
7	Zydus Wellness	PE/PS based	36	0.28565	0.142857	0.040807	**RISK**
					ER(P)	**23.77%**	**0.02%**
					ER(P)	**23.62%**	**0.01%**

Findings

- Successful creation of a portfolio with reduced risk and positive alpha generation.
- Undervalued stocks demonstrated lower risk compared to fairly or highly valued counterparts.
- The project successfully balanced risk reduction and alpha generation in the portfolio.

Conclusions

- Quantitative Approach Validated: The study affirms the significance of a quantitative approach in equity portfolio optimization, showcasing the importance of financial ratios, historical data analysis, and risk management techniques.

Financial Awareness Among The Youth: Understanding Financial Behaviour, Attitude & Knowledge

- Krishna Rathi

Introduction:

In an era of economic complexities and evolving financial landscapes, the importance of financial literacy cannot be overstated, especially when it comes to the younger generation. The youth of today face a myriad of financial decisions that will significantly impact their future. Therefore, understanding their financial behaviour, attitude, and knowledge becomes crucial in promoting a financially secure and empowered society.

Financial Behaviour:

The financial behaviour of youth is often shaped by various factors, including societal influences, family dynamics, and educational experiences. Many young individuals tend to lean towards impulsive spending, driven by the desire for instant gratification. The prevalence of digital transactions and online shopping has further fuelled this behaviour, making it imperative to educate the youth on responsible spending habits.

Moreover, the youth's approach to saving and investing is also a key aspect of their financial behaviour. Studies have shown that a considerable number of young people lack the habit of saving money or investing in long-term financial instruments. This trend highlights the need for comprehensive financial education programs that emphasize the benefits of saving and investing for future financial stability.

Financial Attitude:

The financial attitude of the youth is often influenced by their perceptions, beliefs, and emotional associations with money. Some may exhibit a cautious approach, preferring to save and avoid debt, while others may adopt a more carefree attitude, spending beyond their means without a clear understanding of the consequences.

Financial attitudes are also shaped by cultural and societal norms. For example, some cultures may emphasize frugality and savings, instilling a conservative financial mindset in their youth. Understanding and respecting these diverse attitudes is crucial in designing effective financial education initiatives that cater to the diverse needs of the youth population.

Financial Knowledge:

Financial knowledge forms the foundation of financial literacy. Unfortunately, studies consistently show a gap in the financial knowledge of many young individuals.

Basic financial concepts, such as budgeting, interest rates, and the impact of inflation, often

elude them. This lack of knowledge can lead to poor financial decision-making and vulnerability to financial pitfalls.

To address this issue, educational institutions and policymakers must prioritize integrating practical financial education into school curricula. By equipping young people with the necessary knowledge and skills, we empower them to make informed financial decisions throughout their lives.

Promoting Financial Literacy:

Effective strategies for promoting financial literacy among the youth involve a multi-faceted approach. Here are some key recommendations:

1. **Incorporate Financial Education into School Curricular:** Integrate age-appropriate financial education into school programs to ensure that students acquire essential financial knowledge from an early age.
2. **Utilize Technology:** Leverage technology to create engaging and interactive platforms for financial education. Mobile apps, online courses, and gamified learning experiences can make financial education more accessible and appealing to the youth.
3. **Encourage Open Discussions:** Foster open discussions about money within families and communities. Creating a supportive environment where young individuals can ask questions and seek guidance can contribute to a healthier financial attitude.
4. **Collaborate with Financial Institutions:** Financial institutions can play a vital role in supporting financial literacy initiatives. Collaborations between educational institutions and banks can lead to workshops, seminars, and resource-sharing to enhance the financial knowledge of the youth.

Conclusion:

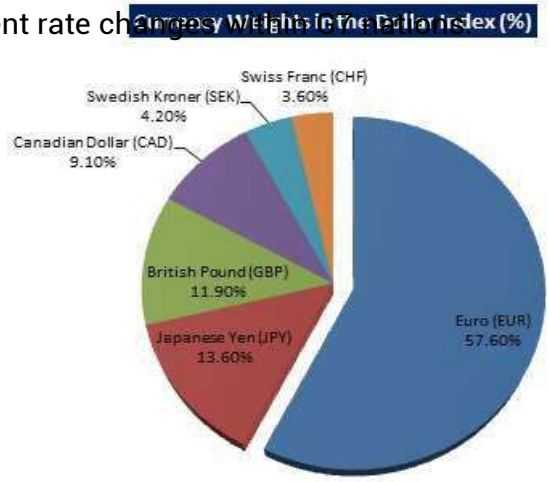
Addressing the financial literacy gap among the youth is a collective responsibility that involves educators, parents, policymakers, and financial institutions. By understanding and positively influencing the financial behaviour, attitude, and knowledge of the younger generation, we pave the way for a financially literate society that is better equipped to navigate the complexities of the modern financial world. Investing in the financial education of the youth today is an investment in a more economically empowered and resilient future.

Impact of G7 countries inflation (CPI) and unemployment rate changes on Indian currency pair

- Padmaraja

Navigating the intricate world of global finance is akin to unravelling a complex web of interconnected economies, where the decisions made within powerhouse nations resonate across borders, shaping the dynamics of currency values and market behaviors. In this realm, the intimate relationship between G7 macroeconomic events and their influence on Indian currency pairs stands as a pivotal focal point, offering a glimpse into the interplay between global economic indicators and currency fluctuations in India.

This in-depth study delves into the subtle nuances of the relationship between two key G7 economic indicators: changes in the Consumer Price Index (CPI) and unemployment rates. The focus is on their impact on four significant Indian currency pairs: USD/INR, EUR/INR, JPY/INR, and GBP/INR. Spanning from January 2010 to August 2023, this research employs an event study methodology, scrutinizing daily return dynamics surrounding the announcements of CPI and unemployment rate changes. We aim to illuminate



Source: US ICE Exchange

The methodical approach adopted for this analysis involves categorizing events based on their impact, distinguishing between factors leading to an increase or decrease in CPI and unemployment rates. Careful delineation of ranges and dates for these events across G7 countries forms the backbone of this study. Statistical tools like the t-test for two samples for mean and hypothesis testing have been utilized to discern significant relationships between G7 economic indicators and Indian currency pairs.

Interpreting the findings of this rigorous analysis sheds light on the intricate influence of G7 macroeconomic events on Indian currency pairs:

1. CPI Influence:

	CPI range (in %)	
	minimum	**maximum**
US	0.0%	2.0%
Canada	0.0%	2.0%
Euro Zone	0.0%	2.0%
Japan	0.0%	2.0%
Britain	0.0%	2.0%

- When CPI plummeted below 0% in Japan and the UK, noteworthy impacts rippled through JPY/INR and GBP/INR, respectively. However, the evidence for significant impact on USD/INR and EUR/INR appeared inconclusive based on the derived p-values.

- Conversely, when CPI surged above 2%, discernible impacts were observed on EUR/INR, GBP/INR, and JPY/INR, with various G7 nations contributing to these effects. Nevertheless, evidence for USD/INR lacked conclusive significance.

2. Unemployment Rate Influence:

	Unemployment range (in %)	
	minimum	**maximum**
US	4.0%	5.0%
Canada	5.0%	7.0%
Euro Zone	4.0%	7.0%
Japan	2.5%	4.0%
Britain	3.0%	5.0%

- Changes in unemployment levels, specifically crossing below a certain threshold in Japan and the Eurozone, showcased potential impacts on JPY/INR and EUR/INR, respectively.

- Furthermore, when unemployment ascended above a specific level, Eurozone unemployment seemed to significantly influence EUR/INR. Additionally, USD/INR appeared sensitive to unemployment fluctuations in the one-tailed test.

The Findings:

These findings hold significant implications for investors, policymakers, and market analysts alike. They provide a deeper understanding of how global economic events intricately affect the Indian currency market. The sensitivity of Indian currency values to precise macroeconomic events within major global economies becomes evidently clear through this comprehensive analysis.

When unemployment crosses above level:

	p value									
	US		Canada		Euro zone		Japan		Britain	
	One tail	Two tail	One tail	Two tail	One tail	Two tail	One tail	Two tail	One tail	Two tail
USDINR	0.101	0.203	0.167	0.335	0.150	0.300	0.082	0.163	0.029	0.058
EURINR	0.125	0.250	0.221	0.441	0.166	0.332	0.014	0.028	0.092	0.185
GBPINR	0.061	0.122	0.064	0.128	0.263	0.527	0.105	0.209	0.156	0.312
JPYINR	0.231	0.463	0.133	0.267	0.062	0.125	0.067	0.134	0.246	0.491

When CPI crosses above 2% level:

	p value									
	US		Canada		Euro zone		Japan		Britain	
	One tail	Two tail	One tail	Two tail	One tail	Two tail	One tail	Two tail	One tail	Two tail
USDINR	0.281	0.561	0.285	0.571	0.040	0.080	0.282	0.564	0.028	0.055
EURINR	0.248	0.497	0.365	0.731	0.091	0.183	0.048	0.095	0.032	0.064
GBPINR	0.398	0.796	0.079	0.158	0.006	0.012	0.452	0.903	0.196	0.393
JPYINR	0.074	0.147	0.009	0.018	0.133	0.267	0.001	0.003	0.001	0.002

When CPI crosses below 0% level:

	p value									
	US		Canada		Euro zone		Japan		Britain	
	One tail	Two tail	One tail	Two tail	One tail	Two tail	One tail	Two tail	One tail	Two tail
USDINR	0.081	0.161	0.063	0.126	0.458	0.917	0.173	0.345	0.099	0.198
EURINR	0.062	0.123	0.061	0.123	0.425	0.850	0.335	0.670	0.068	0.136
GBPINR	0.004	0.008	0.272	0.544	0.273	0.545	0.076	0.152	0.493	0.985
JPYINR	0.053	0.106	0.014	0.029	0.193	0.386	0.003	0.005	0.054	0.109

When unemployment crosses below level:

	p value									
	US		Canada		Euro zone		Japan		Britain	
	One tail	Two tail	One tail	Two tail	One tail	Two tail	One tail	Two tail	One tail	Two tail
USDINR	0.088	0.176	0.070	0.140	0.065	0.131	#N/A	#N/A	#N/A	#N/A
EURINR	0.020	0.040	0.382	0.765	0.449	0.899	#N/A	#N/A	#N/A	#N/A
GBPINR	0.069	0.139	0.283	0.566	0.112	0.225	#N/A	#N/A	#N/A	#N/A
JPYINR	0.038	0.076	0.132	0.265	0.007	0.014	#N/A	#N/A	#N/A	#N/A

Understanding these interconnections becomes paramount for stakeholders engaged in international trade, finance, and investment. These insights equip them to navigate currency risks, anticipate market movements, and strategize effectively in alignment with global economic developments.

Moreover, this study presents an avenue for further exploration and research. It encourages a more profound dive into the multifaceted relationships between global macroeconomic indicators and emerging market currencies, such as the Indian Rupee.

In essence, this comprehensive analysis serves as a testament to the intricate relationship between G7 macroeconomic events, CPI, unemployment rates, and their profound impacts on Indian currency pairs. It underscores the undeniable interconnectedness of global financial markets and emphasizes the necessity for a nuanced understanding of how international economic developments shape currency movements in emerging markets like India.

Unraveling the Economic Web: A Comprehensive Analysis of Key Variables Shaping India's Financial Landscape

-Prince Saraswat

In a bid to decode the intricate relationships governing India's economic landscape, this research report delves into a comprehensive analysis of pivotal economic and financial variables. Our focus centres on understanding the nuanced interplay and impacts of the Marginal Standing Facility (MSF) Rate, Bank Rate, 10-Year G-Sec Yield, Cash Reserve Ratio (CRR), Policy Repo Rate, Foreign Exchange Reserves, and the NIFTY50 stock market index. Each of these variables acts as a critical indicator, offering insights into diverse aspects of the economy, from monetary policy dynamics to stock market performance and global economic resilience.

The MSF Rate emerges as a vital monetary policy tool, reflecting the interest rate at which banks can procure funds overnight from the central bank. This rate gauges liquidity conditions, influencing short-term interest rates and the broader monetary environment. Often employed by banks facing short-term funding challenges, the MSF serves as a crucial emergency funding source. An elevated MSF Rate signals a stringent monetary policy, aiming to counter inflation, while a reduced rate suggests an accommodative stance to stimulate economic activity.

The Bank Rate, representing the interest rate for central bank lending to commercial banks, plays a fundamental role in monetary policy. Adjustments in the Bank Rate have a cascading impact on borrowing costs for banks, affecting interest rates throughout the economy. A higher Bank Rate raises borrowing costs, potentially slowing economic activity, while a lower rate makes borrowing more affordable, fostering growth.

The 10-Year G-Sec Yield serves as a benchmark for long-term interest rates, offering insights into government borrowing costs. Changes in G-Sec yields ripple through debt markets, influencing economic stability. Stability in G-Sec yields is crucial for economic stability, and abrupt shifts may indicate market volatility or underlying economic challenges.

As a regulatory tool, the CRR mandates banks to maintain a percentage of their deposits as reserves with the central bank. CRR impacts bank liquidity, influencing lending capacity and overall money supply. An increased CRR reduces funds available for lending, acting as a measure to manage inflation by curbing credit accessibility during inflationary pressures.

The Repo Rate, dictating the interest rate for short-term central bank loans to commercial banks, is pivotal for monetary policy. Adjustments in the Repo Rate impact borrowing and lending activities, influencing economic conditions. A higher Repo Rate makes borrowing more expensive, while a lower rate stimulates economic activity by making borrowing more affordable.

Crucial for meeting external payment obligations, Foreign Exchange Reserves stabilize exchange rates and bolster economic resilience. These reserves provide a buffer during economic stress or external shocks, allowing intervention in the foreign exchange market to influence the national currency's value.

As a benchmark stock market index, NIFTY50 reflects the performance of India's top 50 listed companies, serving as a key indicator of stock market sentiment and broader economic trends.

Data Analysis and Model Findings:

The research model, though statistically significant, exhibits limited explanatory power. The MSF Rate appears to lack meaningful contribution, warranting scrutiny. Bank Rate, 10-Year G-Sec Yield, CRR, and Foreign Exchange Reserves show varying significance, with caution advised on interpreting Policy Repo Rate due to a wide confidence interval.

This research provides valuable insights into India's economic dynamics, aiding policymakers, economists, and market participants in decision-making. The findings underscore the nuanced impacts of key variables, paving the way for further analysis, including checks for multicollinearity and alternative model considerations. As India navigates its economic landscape, a holistic understanding of these variables proves indispensable for informed decision-making.

Expansion and Performance of ESG Mutual Fund in India

-Ramswarup Jat

Introduction:

Environmental, Social, and Governance (ESG) investing has emerged as a global trend, with a significant impact on investment decisions. In India, the popularity of ESG investing has grown steadily, marked by the launch of the first ESG investible index, the S&P ESG Indian Index, in 2008. This article delves into the landscape of ESG mutual funds in India, examining their growth, performance, and the various factors influencing the market.

Development of ESG Investing in India:

The journey of ESG investing in India can be traced back to 2013 with the launch of the SBI Magnum Equity ESG Fund. Before this, ESG integration was primarily limited to exclusionary screening, where investors avoided certain sectors like tobacco and alcohol.However, the ESG mutual fund space saw significant development between 2018 and 2022, driven by initiatives like SEBI's ESG guidelines in 2022, promoting transparency and standardization in ESG disclosures.

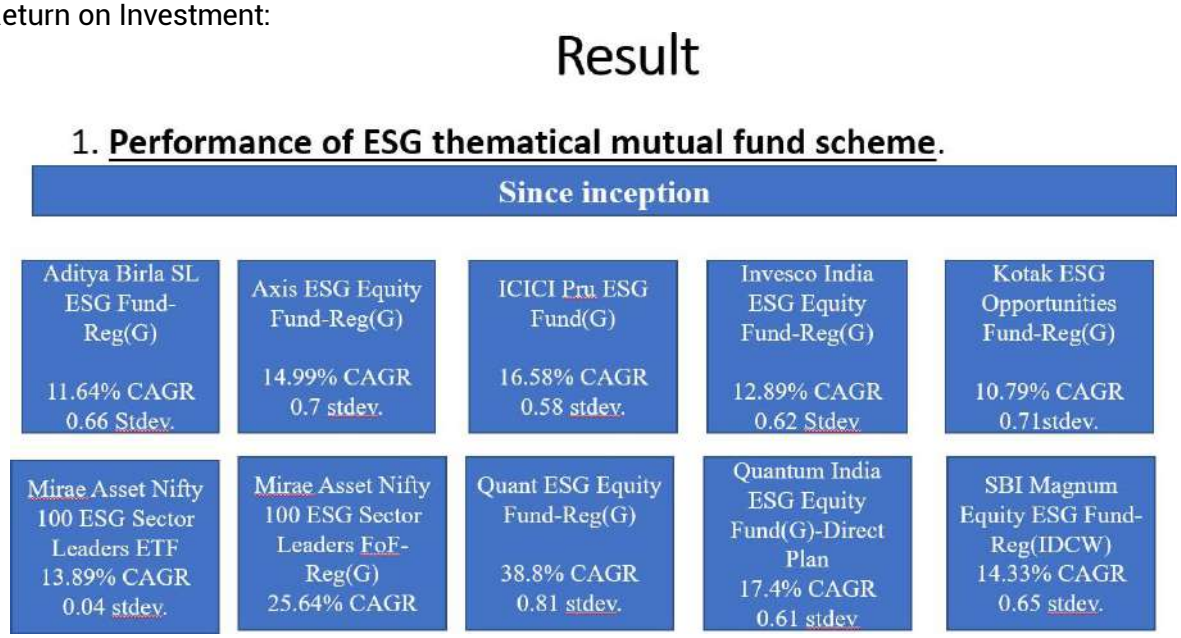
As of October 2023, there are over 15 ESG mutual funds in India, with a combined AUM exceeding Rs.15,000 crore, showcasing the continued growth and investor interest in ESG investing. SEBI's proposed introduction of five new categories for ESG mutual funds further indicates the evolving nature of this sector.

ESG Mutual Fund Schemes in India:

The article examines several ESG mutual fund schemes in India, including SBI Magnum Equity ESG Fund, Aditya Birla Sun Life ESG Fund, Axis ESG Equity Fund, ICICI Prudential ESG Fund, Invesco India ESG Equity Fund, Kotak ESG Opportunities Fund, Quant ESG Equity Fund, Quantum India ESG Equity Fund, Mirae Asset Nifty 100 ESG Sector Leaders ETF, and Mirae Asset Nifty 100 ESG Sector Leaders FoF-Reg(G).

Results and Performance Analysis:

Return on Investment:



Most funds have generated positive returns since inception, demonstrating their ability to outperform the market over time. However, the performance varies across different years, emphasizing the inherent risk associated with investing in equity markets.

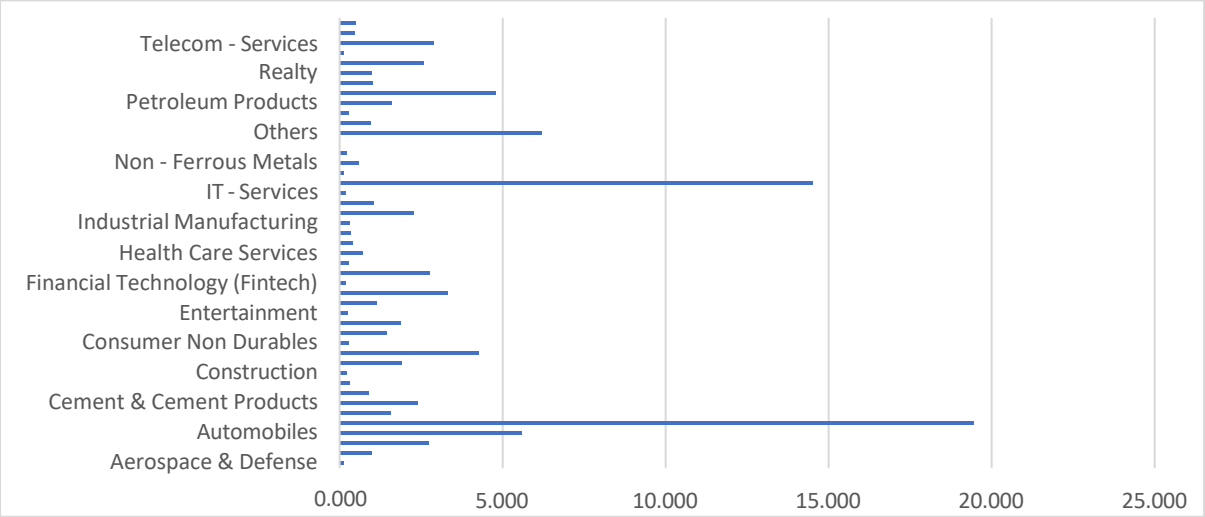
AUM Trends:
While some funds experience declining AUM, others witness significant growth. The diverse performance highlights the variability within the Indian ESG sector, with certain funds thriving while others face challenges.

Scheme	Initial AUM	AUM on July 2023	Change in %
Aditya Birla SL ESG Fund	844.74	775.19	-8.23%
Axis ESG Equity Fund	1738.32	1482.97	-14.68%
ICICI Pru ESG Fund	1456.81	1292.03	-11.31%
Invesco India ESG Equity Fund	575.35	591.69	2.84%
Kotak ESG Opportunities Fund	1500.07	1098.78	-26.75%
Mirae Asset Nifty 100 ESG	98.09	137.70	40.37%
Mirae Asset Sector Leaders FoF-Reg	78.23	117.91	50.72%
Quant ESG Equity	13.47	191.73	132.26%,
Quantum India ESG Equity	11	70.89	544%
SBI Magnum Equity ESG	1005.29	4999.43	397.30%

- Values in crores

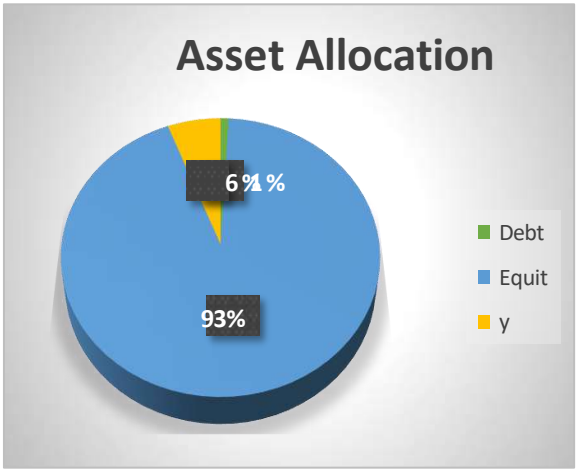
Sector-wise Analysis:

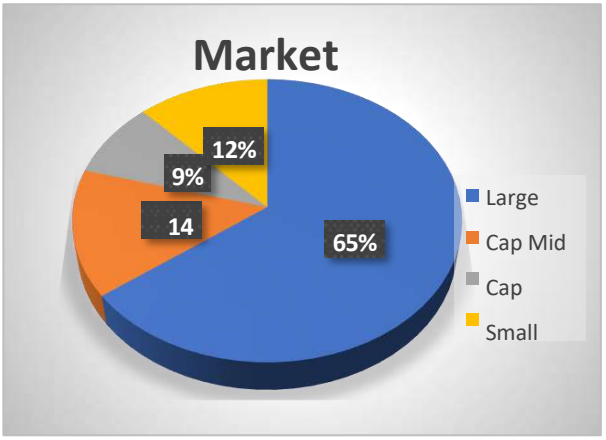
ESG funds exhibit significant allocations to sectors such as Banks and IT, reflecting a focus on growth and income generation. However, specific funds deviate from these trends, emphasizing the diversity within the sector.



Asset Allocation and Market Capitalization:

Most funds are heavily invested in equities, indicating a focus on capital appreciation. The allocation to large-cap stocks is substantial, showcasing a preference for established companies with a lower risk profile.





Identification of Key ESG Criteria and Methodologies:

The article underscores the importance of identifying key ESG criteria and methodologies for selecting and managing ESG-focused portfolios. ESG criteria encompass environmental, social, and governance factors that assess a company's performance beyond financial metrics.

Robust methodologies are crucial for effective ESG investing, aligning investments with sustainability goals.

Conclusion:

Performance of ESG Mutual Funds:

ESG mutual funds in India have displayed positive performance, outperforming the broader market. The lower risk profile of ESG funds is attributed to companies' adherence to environmental, social, and governance practices.

Expansion of ESG Funds:

Despite slow growth compared to developed nations, ESG mutual funds in India show promise. Factors such as limited investor understanding and a short track record hinder growth, but increased awareness indicates a positive trajectory.

Asset Allocation of ESG Mutual Funds:

ESG mutual funds primarily target finance and IT sectors, allocating a significant portion to equity investments, with a preference for large-cap stocks. This strategic focus aligns with the belief that such companies have established ESG practices and long-term growth potential.

In conclusion, the exploration of ESG mutual funds in India reveals a dynamic and evolving landscape. While challenges persist, the positive performance and growing investor interest signal a promising future for ESG investing in the country.

Green Bonds in India: A Transformative Journey Towards Sustainable Finance

-Riddhi Agrawal

The emergence and evolution of the green bond market in India signify a pivotal shift towards sustainable finance. Green bonds, fixed-income financial instruments designed to fund environmentally beneficial projects, have gained traction globally since the early 2000s. In India, a country grappling with significant environmental challenges, the green bond market has become a crucial bridge between capital markets and sustainable projects. This article explores the growth, challenges, and key players in India's green bond market, highlighting its role in shaping the nation's environmental future.

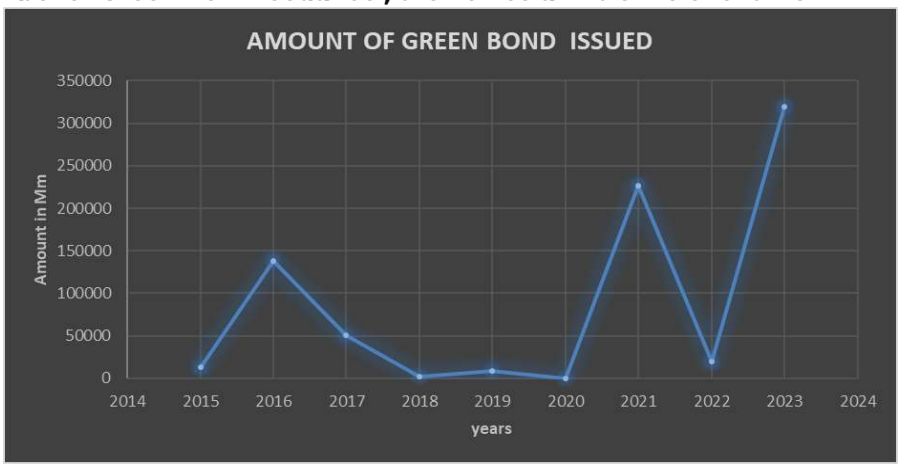
Green bonds, driven by the need to address pressing environmental issues and combat climate change, play a vital role in financing projects with positive environmental and climate benefits. These projects span various categories, including renewable energy, energy efficiency, pollution control, and sustainability initiatives. The concept of green bonds gained momentum in India with the recognition of the country's environmental challenges and its commitment to sustainable finance

The Indian green bond market has experienced significant growth, guided by the International Capital Market Association's Green Bond Principles (GBP). Issuers, following these principles, shape the market through detailed Green Bond Frameworks, outlining project eligibility and reporting protocols. Transparency is crucial as issuers commit to providing comprehensive details on revenue allocation and ecological impacts. The market includes diverse bonds like social and sustainability bonds, green sukuk, and green loans, each adhering to specific rules for environmental and social goals. Proceeds from green bonds fund projects such as renewable energy, energy efficiency, sustainable transportation, and clean water initiatives, with robust tracking systems ensuring proper fund management.

The growth and evolution of green bond market in India over the years

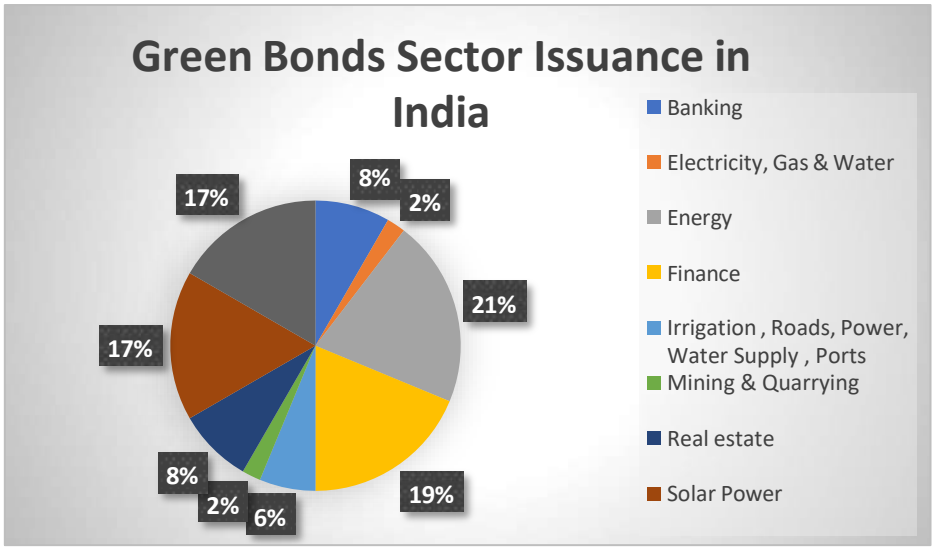
The Indian green bond market has evolved significantly, spurred by initiatives like Yes Bank's inaugural issuance in 2015 and government interventions, such as SEBI's guidelines. The market diversified across sectors, including renewable energy and real estate. Increasing investor interest, global index inclusion, and government commitment, as seen in the National Infrastructure Pipeline, propelled growth. Despite challenges, the market demonstrated resilience during the COVID-19 pandemic. The Finance Minister's focus on green growth and the introduction of Sovereign Green Bonds underscore India's dedication to sustainability. The Nifty India Sovereign Green Bond Jan 2028 Index reflects this commitment, encapsulating the market's growth and potential.

Analyse number of Green Bond issuance , their sizes and trends over time



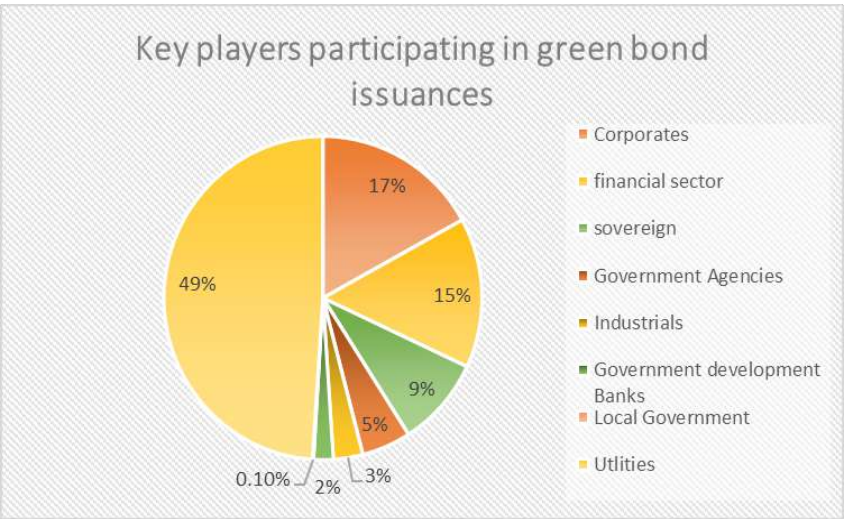
The Indian green bond market has undergone a dynamic journey from 2015 to 2023, marked by fluctuations and resilience. Beginning with a modest start in 2015, the market saw a significant surge in 2016, a decline in 2017, and stabilization in 2018-2019. The year 2020 witnessed no issuances due to the global pandemic's impact, followed by a remarkable resurgence in 2021. Subsequent years demonstrated moderation in 2022 and a record-breaking 14 issuances in 2023. This nuanced narrative reflects the evolving landscape of sustainable finance in India, influenced by economic conditions, regulatory changes, and a growing commitment to environmental responsibility.

Sectors or industries that have been most active in issuing green bonds



Green bonds have become a pivotal force in India's journey towards sustainable development, channelling funds into key sectors. The data reveals a diversified allocation of proceeds, with 37.5% directed to energy, emphasizing a shift to renewable sources. Finance, real estate, and water management also benefit significantly, showcasing a holistic approach. Sectors like banking and infrastructure receive attention, reflecting a growing awareness of their role in sustainability. Overall, the study highlights how green bonds contribute across industries, addressing environmental, economic, and social challenges for a comprehensive impact on India's sustainable future.

The key players participating in green bond issuances



The breakdown of key players in India's green bond market reveals a collaborative effort towards sustainability. Utilities lead with 49%, emphasizing a commitment to clean energy projects. Corporates (17%) and the financial sector (15%) showcase private and institutional dedication to sustainable finance. Sovereign entities (9%) and government agencies (5%) highlight national and decentralized efforts, while industrials (3%), government development banks (2%), and local government (0.10%) contribute to a multifaceted approach. This data underscores a growing momentum in integrating sustainability into diverse sectors, emphasizing the role of green bonds in advancing India's comprehensive sustainability agenda.

Emerging Market Green Bond Issuance

In the realm of green bond issuance among emerging nations, China takes the lead, with India and Chile following closely. This hierarchy highlights the pivotal role of emerging markets in shaping a sustainable future. Acknowledging varying levels of participation underscores the need for strategic initiatives to boost green bond engagement across diverse economies, fostering a more inclusive and impactful global shift towards sustainable financing.

Conclusion of the Study

In conclusion, the study of India's green bond market unveils a transformative journey marked by growth, challenges, and collaborative sustainability efforts. The market's evolution reflects India's commitment to addressing climate change and fostering environmental responsibility. Ongoing policy support, innovation, and heightened awareness of environmental risks are crucial for sustaining this positive trajectory. As India positions itself as a major player in the global green bond landscape, the article emphasizes the pivotal role of green bonds in shaping a resilient and environmentally responsible financial ecosystem, contributing significantly to the global transition towards sustainable finance

ARTICLE

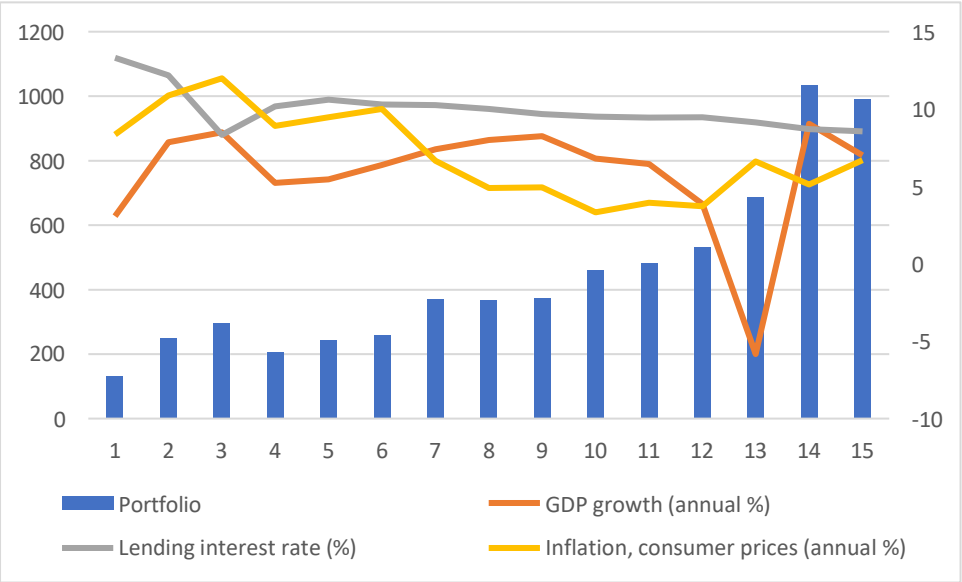
Risk Management Strategies in Portfolio Construction

The reverberations of the global financial crisis in 2008 triggered a seismic revaluation of financial market dynamics, compelling investors and portfolio managers worldwide treexamine their strategies in response to the newly emerging economic landscape. This transformative period necessitated a profound shift in the understanding of the intricate relationship between macroeconomic variables and portfolio performance. Against this backdrop, our study delves deeply into the dynamics of the Indian stock market from 2008 to 2022, employing sophisticated analytical tools such as regression analysis, economic scenario assessments, and risk metrics. The primary aim is to not only unravel the complexities associated with portfolio behaviour within this specific market context but also to distil actionable insights that can guide decision-making in the face of the ever-evolving and dynamic conditions prevalent in global financial markets. In undertaking this comprehensive investigation, we seek to contribute substantively to the collective body of knowledge in finance while providing practical implications for investors and portfolio managers navigating the complexities of contemporary market uncertainties.

The overarching objective of the study is to conduct a rigorous analysis of a portfolio of stocks in the Indian market, emphasizing the impact of macroeconomic variables. Specific objectives include examining the influence of GDP growth, lending interest rates, and inflation on portfolio performance, assessing the strength of relationships through regression analysis, evaluating the portfolio's response to economic scenarios, interpreting coefficients to discern directional impacts, investigating correlations, and integrating risk metrics for a comprehensive risk-return assessment. The study ultimately seeks to provide strategic recommendations for decision-makers.

The methodology combines quantitative analysis with economic scenario modelling. Regression analysis, utilizing historical data from 2008 to 2022, models the relationship between portfolio performance and macroeconomic variables. Economic scenarios, namely boom and recession, provide nuanced insights, and risk metrics such as Value at Risk (VaR), portfolio variance, standard deviation, and Sharpe ratio enhance the assessment of risk and return profiles.

Findings from regression analysis, economic scenario modeling, and VaR calculations. The regression analysis reveals significant relationships, economic scenarios provide insights into sensitivity, and VaR calculations quantify risk exposure. This holistic approach enhances our understanding of how the portfolio behaves and manages risk.



The results suggest a significant influence of macroeconomic factors on the portfolio. Higher lending interest rates and inflation are associated with lower performance, while GDP growth has a relatively weaker impact. Economic scenario analysis reveals the portfolio's sensitivity to boom and recession conditions. VaR calculations and risk metrics indicate historically low risk and high returns.

In conclusion, the study provides valuable insights into the relationship between macroeconomic variables and portfolio performance. Negative coefficients for lending rates and inflation emphasize their pivotal role. The integration of regression results with economic scenarios and risk metrics offers a comprehensive understanding. While historical data is foundational, continuous monitoring, adaptability, and openness to new factors are crucial for navigating dynamic financial markets successfully.

Future considerations emphasize ongoing monitoring of economic conditions, revisiting analytical models with new data, and openness to additional factors impacting portfolios. These considerations ensure the relevance and adaptability of investment strategies in a constantly evolving financial landscape.

Based on the analysis, recommendations include continuous risk management, diversification across assets and sectors, and implementation of dynamic strategies informed by regression analysis, economic scenarios, and risk metrics. As we navigate the intricate currents of financial markets, this study contributes not only to existing knowledge but also offers practical implications for investors and portfolio managers steering through the evolving financial landscape.

Effect of customer perception on AI Robo Services in Securities Markets

- Sajal Jain

The field of robotics has significantly transformed a number of socioeconomic facets of our society. The goal of robotics and artificial intelligence is to build and comprehend machines that can think and behave like people.These days, robots are developing into sophisticated devices that carry out jobs fast and wisely by utilizing their artificial intelligence, skills, and cunning. When robotics and AI are combined, a machine can perform tasks similarly to a human. In the future, robots will be present everywhere and will assist people whenever and wherever they are needed

While robots fulfill a myriad of roles in different sectors, they share common traits that define them as part of the broader field of robotics. These traits include the ability to perform tasks autonomously or semi-autonomously, the incorporation of sensors for perception and interaction with the environment, and the utilization of algorithms for decision-making. Despite the diversity in their applications, these shared characteristics underscore the cohesive nature of robotics as a field that continually evolves to meet the ever-expanding needs of society.

Introduction:

A study on the effect of customer perception on AI Robo Services in Securities Markets has been done in this paper. The acceptance, utilization, and general success of AI robo services in the securities markets are significantly influenced by customer perception. Customers and technology have a dynamic interaction that influences many different parts of life, from user adoption rates and market reputation to trust and confidence. This conversation delves into both good and negative factors that impact the market for automated financial tools, as it examines the significant impact that customer perception has on the adoption and effectiveness of AI robo services in the financial industry.

Purpose of study:

Understanding Customer Perceptions and also to look after the perceptions of investors on AI robo services.Also to determine the elements that affect consumers' perceptions of these technologies.

Information Gathering:

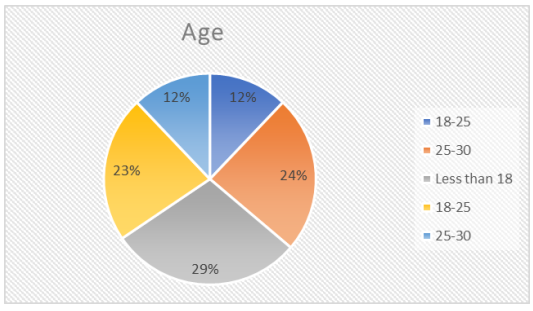
Surveys/Questionnaires: Create organized questionnaires to collect numerical information on consumer opinions.

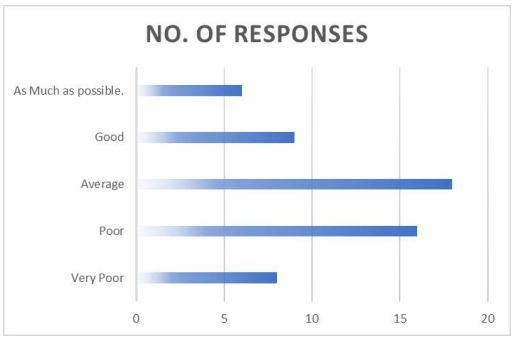
Personal interaction: To gain qualitative insights and a better grasp of consumer sentiments, conduct in-depth conversation.

Observations: Track consumer interactions in simulated or real-world settings using AI robo services.

Questionnaire:

1. "Are you currently using AI robo services for managing your investments in the securities market?
2. How frequently do you use AI robo services for financial decision-making?
3. How would you describe your level of trust in AI robo services for managing your financial investments?
4. How would you rate your overall experience with AI robo services in securities markets?
5. How would you rate your overall experience with AI robo services in securities markets?
6. How well do you feel financial institutions communicate the capabilities and limitations of AI robo services?
7. To what extent do AI robo services influence your financial decision-making process?
8. Have you experienced positive or negative outcomes based on the recommendations provided by AI robo services?
9. How informed do you feel about the functionalities and benefits of AI robo services?
10. Would you be interested in more educational resources or information about AI robo services?"





Data Interpretation and Analysis of Responses:

1	
Mean	3
Standard Error	0.156674977
Median	3
Mode	3
Standard Deviation	1.203443336
Sample Variance	1.448275862
Kurtosis	-0.864393126
Skewness	0
Range	4
Minimum	1
Maximum	5
Sum	177
Count	59
Confidence Level(95.0%	0.313619041

2	
Mean	2.810344828
Standard E	0.154498773
Median	3
Mode	3
Standard I	1.176627601
Sample Va	1.384452511
Kurtosis	-0.63436922
Skewness	0.24868712
Range	4
Minimum	1
Maximum	5
Sum	163
Count	58
Confidenc	0.309378457

3	
Mean	2.847457627
Standard Error	0.172331554
Median	3
Mode	2
Standard Deviation	1.323703781
Sample Variance	1.75219,U,01
Kurto5is	-1.113823284
Skewness	0.151709236
Range	4
Minimum	1
Maximum	5
Sum	168
Count	59
Confidence level(95.0'¾	0.344959 084

4	
Mean	2.81355932:2
Istandard Error	0.151891592
Median	3
Mode	3
Standard Deviation	1.166701455
Sample Variance	1.36119·2285
Kurtosis	-0.5968923516
Skewnes.s	0.2420599'51
Range	4
Minimum	1
Maximum	5
Sum	166
Count	59
Confidence level{95.0"¾	0.304044 055

5	
Mean	2.915254237
Standard Error	0.16447 8766
Median	3
Mode	3
Standard Deviation	1.263385 375
Sample Variarnce	1.59514 2607

6	
Mean	3.203389831
Standard Error	0.156263465
Mediarn	3
Mode	4
Standard Deviation	1.200282453
Sample Variance	1.440677956

Kurtosis	-0.886283644		Kurto,is	-0.9632154
Skewness	-0.048035411		Skewness	-0.221701491
Range	4		Range	4
Minimum	1		Mirnimum	1
Maximum	5		Maximum	5
Sum	172		Sum	189
Count	59		Count	59
Confidence Level(95.0'll	0.329124 0022		Confidence Level(95.0%)	0.312795311

7			8	
Mean	3.016949153		Mean	3.152542373
Standard Error	0.164839173		Stand ard	0.150614481
Median	3		Media n	3
Mode	4		Mode	3
Standard Deviation	1.266157987		Stand ard	1.156891783
Sample Variance	1.603156049		Sampl e V	1.33839.859 7
Kurt,osis	-1.040625348		Kurt,o sis	-0.712326577
Skewness	-0.032778571		Skewn ess	-0.100662818
Range	4		Range	4
Minimum	1		Minim um	1
Maximum	5		Maxi murr	5
Sum	178		Sum	186
1Count	59		Count	59
Confidence Level(95.0'¾	0.32:9952569		Confid en,	0.301487641

9			10	
Mean	3.050847458		Mean	3.237288136
Standard Error	0.157463324		Standard Error	0.15730597
Median	3		Median	3
Mode	3		Mode	3
Standard Deviation	1.209498739		Standard Deviation	1.208290086
Sample Variance	1.4628872		Sample Variance	1.459964933
Kurtosis	-0.798484685		Kurtosis	-0.813920232
Skewness	-0.039846919		Skewness	-0.111965809
Range	4		Range	4
Minimum	1		Minimum	1
Maximum	5		Maximum	5
Sum	180		Sum	191
Count	59		Count	59
Confidence Level(95.0%	0.315197088		Confidence Level(95.0%)	0.314882111

Data Interpretation:

After the study and according to the responses on the topic “Effect of customer perception on AI Robo Services in Securities Markets'' we came to the conclusion that most of the investors are having a confusing perception regarding the market since most of the respondents have chosen the middle option i.e. “Average" among the options ‘Poor" and “Excellent".

After conducting a comprehensive study and analyzing the responses on the topic "Effect of customer perception on AI Robo Services in Securities Markets," our findings point towards a nuanced and somewhat ambivalent outlook among investors. The predominant trend that emerged from the responses is a distribution toward the middle option, marked as "Average," when participants were asked to assess their perception of AI Robo Services in the securities markets.

This prevalence of "Average" responses implies a sense of ambivalence or uncertainty among investors regarding the impact and effectiveness of AI Robo Services. It suggests that the surveyed investors may be grappling with a degree of confusion or mixed feelings when it comes to integrating AI-driven solutions into their financial strategies within the securities markets.

CONCLUSION:

Financial institutions need to tread carefully when balancing client sentiment with technical innovation as AI Robo Services continue to reshape the securities markets. The financial sector has the opportunity to usher in a time where AI Robo Services are trusted friends in the pursuit of financial well-being rather than just convenient tools by placing a high priority on transparency, establishing trust, and promoting pleasant user experiences.

AI robotic services are a disruptive force that are changing entire sectors and how humans engage with technology. In addition to increasing productivity, the combination of robotics with artificial intelligence has created new opportunities in industries including manufacturing, healthcare, and customer service, among others.

"A STUDY ON RELATIONSHIP BETWEEN THE MOVEMENT OF COMMONLY TRADED CURRENCY PAIRS"

-Sakshi Shepal

INTRODUCTION

The currency market, often dubbed the forex market, stands as the globe's largest and most liquid financial arena, open 24/5 across major financial hubs such as London, New York, Tokyo, Hong Kong, and Sydney. A myriad of players, including central banks, commercial entities, and individual traders, engage in currency exchange for purposes ranging from global trade support to speculative endeavours.

In this dynamic landscape, currencies are traded in pairs, with each duo comprising a base and quote currency, elucidated by the exchange rate. Major pairs like USD/EUR and USD/JPY dominate, while minor and exotic pairs offer diverse opportunities. Understanding the intricate web of factors influencing currency prices—economic indicators, interest rates, geopolitical events, and more— empowers traders to navigate this turbulent market.

The forex market's decentralized nature doesn't preclude oversight; regulatory bodies ensure fair practices. Successful traders leverage correlations between currency pairs to manage risk, enhance portfolio exposure, and make informed decisions. The marriage of technical, behavioural, and fundamental analysis equips traders with the tools to predict market movements.

While forex trading demands experience, dedication, and discipline, the potential for profit and thrill exists. The value of a currency intertwines with import-export dynamics, inflation, unemployment, interest rates, and oil prices. Recognizing correlations between currency pairs allows for strategic trading, transforming the unpredictable into opportunities. In the ever-evolving forex realm, where trends shift in an instant, adept traders adeptly navigate the macro- and microeconomic nuances, unveiling a connection between a nation's trade policies and the currency pairs it engages with. The forex market, with all its complexities, beckons those with the acumen to decipher its codes and capitalize on its fluidity.

CORRELATION AND INTERPRETATION

	USDINR	EURINR	EURUSD	USDJPY	GBPUSD	AUDUSD	USDDCAD	EURGBP	EURJPY	USDCHF
USDINR	1	0.39	-0.31	0.07	-0.32	-0.39	0.36	0.11	-0.19	0.21
EURINR	0.39	1	0.71	-0.37	0.4	0.29	-0.19	0.18	0.22	0.57
EURUSD	-0.31	0.71	1	-0.44	0.67	0.61	-0.48	0.11	0.4	-0.76
USDJPY	0.07	-0.37	-0.44	1	-0.38	-0.31	0.12	0.06	0.63	0.54
GBPUSD	-0.32	0.4	0.67	-0.38	1	0.65	-0.54	-0.65	0.18	-0.55
AUDUSD	-0.39	0.29	0.61	-0.31	0.65	1	-0.72	-0.25	0.21	-0.51
USDDCAD	0.36	-0.19	-0.48	0.12	-0.54	-0.72	1	0.23	-0.29	0.37
EURGBP	0.11	0.18	0.11	0.06	-0.65	-0.25	0.23	1	-0.29	0.37
EURJPY	-0.19	0.22	0.4	0.63	0.18	0.21	-0.29	-0.29	1	-0.11
USDCHF	0.21	0.57	-0.76	0.54	-0.55	-0.51	0.37	0.37	-0.11	1

The correlation data table highlights relationships between various currency pairs. USD/INR and EUR/INR exhibit a positive correlation of 0.39, indicating a tendency to move in the same direction.

Conversely, EUR/USD and USD/JPY show a negative correlation of -0.44, suggesting an inverse relationship. GBP/USD and AUD/USD demonstrate a strong positive correlation of 0.65, indicating historical movement in the same direction. USD/CAD and EUR/GBP exhibit a negative correlation of - 0.54, implying an inverse connection. EUR/JPY and USD/CHF display a weak negative correlation of - 0.11, suggesting a limited inverse relationship between these currency pairs based on historical price movements.

VOLATILITY INTERPRETATION

Thorough examination of volatility in various currency pairs across different time frames, shedding light on the impact of significant events like the Covid-19 pandemic, alterations in interest rates, geopolitical tensions, and economic shifts. Employing a yearly time frame to calculate daily volatility, the study introduces the concept of Volatility Factor Percentage (VFP) to estimate fluctuations. The focus is on elucidating the reactions and sentiments of the market in response to major occurrences.

The USD/INR pair, central to Indian trade, experienced a surge in daily volatility during the onset of the Covid-19 crisis in 2019-2020, gradually subsiding in the subsequent year, possibly indicative of market recovery. The analysis also incorporates the VFP and average price gap, both reflecting heightened volatility during the pandemic period.

EUR/USD took the spotlight in 2021-2022, displaying the highest volatility attributed to shifts in the Federal Reserve's interest rates and geopolitical tensions. The lowest volatility coincided with a drop in EUR inflation in 2018-19, emphasizing the interconnectedness of economic indicators.

The JPY/USD pair witnessed significant volatility in 2022-23 due to Japan's inflation surge, revealing market sensitivity to economic instability and geopolitical changes. GBP/USD experienced its highest daily volatility during the Covid-19 period, with repercussions like bank collapses, and AUD/USD exhibited peak volatility in response to Federal Reserve interest rate increases in 2022-23 and 2021- 22.

USD/CAD maintained normal daily volatility, with an increase during the Covid-19 period, and EUR/GBP displayed unusually high volatility during the same period, suggesting negative reactions. EUR/JPY showcased the highest daily volatility in 2021-22 and 2022-23, correlating with the economy's recovery and influenced by events such as the Eurozone debt crisis and the Bank of Japan's anti- deflation policy.

The Swiss Franc emerged as a safe haven, experiencing the highest daily volatility in 2022-23 post- Covid-19. The analysis provides a comprehensive overview, linking major events to fluctuations in daily volatility, VFP, and average price gaps, offering insights into market sentiments over diverse time periods.

VAR & CVAR

For the study calculated Value at Risk (VaR) and Conditional Value at Risk (CVaR) for different currency pairs is also performed, illustrating potential losses at various confidence levels based on historical data or specified statistical models.

For example, when an investor invests Rs 100,000 in EUR/INR, the VaR at a 90% confidence level is - $215.29, indicating a 10% probability of the actual outcome being a profit rather than a loss. At a 95% confidence level, the VaR increases to -$5,869.52, reflecting a higher potential loss with a 5% probability. Similarly, at a 99% confidence level, the VaR is -$4,744.87, indicating a potential profit rather than a loss with a 1% probability.

CVaR further assesses potential losses, with values indicating the expected average loss in the worst scenarios. For EUR/INR, at a 90% confidence level, the CVaR is -8.27, suggesting confidence that the expected shortfall will not exceed this value. This pattern continues with decreasing CVaR values at higher confidence levels.

The analysis extends to other currency pairs, such as USD/INR, EUR/USD, USD/JPY, GBP/USD, AUD/USD, USD/CAD, EUR/GBP, EUR/JPY, USD/CHF, and GBP/JPY. Each currency pair exhibits unique VaR and CVaR values at different confidence levels, reflecting the inherent risks associated with currency investments.

The negative VaR values, especially at higher confidence levels, for certain currency pairs like USD/JPY and USD/CHF, are highlighted as unusual scenarios that may warrant further investigation. It's crucial to note that negative VaR implies a probability of profit rather than loss in these instances, deviating from the conventional understanding of VaR.

In conclusion, the paragraphs provide a comprehensive exploration of potential losses for various currency pairs at different confidence levels, shedding light on the risks associated with currency investments. The inclusion of CVaR adds an additional layer of analysis, offering insights into the expected average loss in the worst-case scenarios, further aiding investors in their risk assessment strategies.

CONCLUSION OF THE STUDY

The forex spot market, with its substantial size and daily volume, attracts numerous small investors seeking profits. However, it's crucial to recognize that forex trading isn't a quick path to wealth, with an estimated 90% of investors facing losses due to inexperience. The remaining 10% who profit often do so at the expense of the majority. Successful traders need the right mindset, choosing the appropriate strategies, and demonstrating patience, discipline, and self-control. Correlation and covariance serve as valuable tools for crafting profitable forex strategies, complemented by technical, sentimental, and fundamental analysis. Indian regulations restrict trading currency pairs without INR involvement, but traders use forex consulting services for global market participation.

Analyzing Strategy Resilience in Bear and Bull Market Dynamics

-Sohil Jain

In the ever-changing landscape of global financial markets, understanding how industries and firms navigate through bear (declining) and bull (growing) market conditions is crucial. This dissertation by Sohil Jain provides a comprehensive analysis of strategy resilience in bear and bull market dynamics, with a focus on the banking and automobile industries in India.

The Indian stock market experienced significant volatility between 2015 and 2018, marked by a notable downturn in 2015 followed by a remarkable resurgence until 2018. This period, characterized by global economic slowdowns and domestic policy changes, presents a unique context to study the resilience of market strategies.

The study aims to analyze and evaluate company performances in the banking and automobile sectors during these market phases. It investigates how certain companies managed to outperform their industry averages in both bear and bull markets, thereby providing insights into effective market strategies.

The research adopts an inductive approach, selecting ten major firms from the banking and automobile sectors for analysis. The performance of these firms is compared to industry averages during the specified period, using both quantitative data (stock prices, market indices) and qualitative insights (strategic initiatives, management decisions).

Banking Industry: Resilience of HDFC and IndusInd Banks: Despite the overall banking sector's struggle with non-performing assets and economic uncertainties, these banks demonstrated notable resilience. Their strategies included a strong focus on retail banking, digital innovation, and conservative risk management.

Automobile Industry: Performance of Maruti Suzuki and Eicher Motors: These companies showed remarkable growth in the bull market and resilience in the bear market. Key strategies included diversification, emphasis on value- for-money pricing, and adapting to consumer preferences.

Strategic Insights:

1. Innovation and Customer-Centricity: Successful firms innovated and closely aligned their strategies with customer needs.
2. Risk Management and Diversification: Effective risk management and diversification across sectors and geographies helped firms navigate economic fluctuations.
3. Adaptability: Companies that quickly adapted to changing market conditions, whether through product innovation, market expansion, or operational efficiency, tended to outperform their peers.

The study underscores the importance of strategic flexibility and innovation in navigating fluctuating market conditions. Companies that successfully manage these dynamics tend to create sustainable value, irrespective of the broader economic climate.

This research not only sheds light on the dynamic nature of financial markets but also offers practical insights for businesses aiming to develop resilient strategies in an unpredictable economic environment. The lessons drawn from the banking and automobile sectors in India during this tumultuous period are applicable across industries and geographies, providing valuable guidance for future strategic planning.

EVALUATING PRICE ACTION THROUGH MARKET BASED BUYBACK

-Shreyas Sabare

In the ever-evolving landscape of financial markets, the dynamics surrounding stock values during open market buybacks emerge as a captivating subject. I am, a student pursuing a Post Graduate Diploma in Management (Securities Markets) at the National Institute of Securities Market (NISM), navigates this intricate terrain under the guidance of Dr. Latha Chari. His dissertation unfolds a rich tapestry of insights, delving into the diverse strategies and impacts witnessed across ten companies.

My journey into this financial exploration begins with a comprehensive introduction, unraveling the behavior of stock prices throughout the buyback period. The lens through which this study views open market offer-based buybacks provides a unique perspective, shedding light on the company's attempt to signal undervaluation or optimize its capital structure.

The literature review seamlessly weaves the existing research into the narrative, with scholars like Grullon, Michaely, and Swaminathan indicating that buyback announcements often result in positive abnormal returns. This positive signal for investors sets the stage for my investigation into the impact of open market buybacks on stock prices.

The objectives of the study are clearly outlined - to assess how stock prices behave during the buyback period and to examine the level of volatility, both on action days and non-action days. My research methodology is meticulous, involving data collection from Public Announcement letters, daily buyback reports, and stock prices. The variables used in the analysis include Maximum Buyback Price (MBB), Average Procurement Price (APP), and various measures of volatility.

As we dive into the analysis and interpretation, the dataset across ten companies unfolds, providing a nuanced understanding of pricing strategies and market responses. The research uncovers the diverse approaches companies take in repurchasing shares, showcasing distinct pricing strategies through Maximum Buyback Price (MBB) and Average Procurement Price (APP). The interplay of Daily Price Change Average (DPCA), Price Change Relative to Pre-announcement Average (PCR), and Buyback Closing Price Change Average (BBCPA) unveils varied market reactions to buyback announcements.

My exploration into volatility metrics, such as Total High-Low Volatility during the Buyback Period (THLV- BP) and Total Volatility on Action Days (TVAD), offers insights into the overall market fluctuations and responses on active buyback days. Specific measures of volatility, including Standard Deviation on Action Days (SAD) and Standard Deviation Overall (SO), provide a granular view of price fluctuations during action days, the entire buyback period, and the month preceding the buyback.

In conclusion, my study contributes valuable insights into the intricate dynamics of open market-based buybacks. The varied market responses and diverse pricing and volatility patterns among companies underscore the need for stakeholders to consider nuanced strategies and impacts in navigating these financial landscapes. The dissertation serves as a foundation for future research and offers practical implications for investors, analysts, and market participants in the realm of financial markets.

The references, spanning SEBI, NSE, research papers, and articles, validate the robustness of the study's foundation. My journey through the complexities of market dynamics provides readers with a comprehensive view, not just of academic theories, but of practical information that can be readily applied. Regardless of their degree of experience, analysts, investors, and market participants can gain a better grasp of how stock prices fluctuate and shift during open market-based buybacks as they explore this dynamic landscape alongside me.

Decoding Loss Aversion: Insights into Indian Investors' Behaviour

-Mohit Singh Pawar

In the wake of India's economic boom, the financial landscape has witnessed a surge in investors. However, a prevailing behavioural bias, loss aversion, continues to shape investment decisions among Indians. This research paper navigates through the intricacies of loss aversion, aiming to uncover its extent, identify influential factors, and propose strategies for informed decision-making. Employing a comprehensive mixed-methods approach, the study amalgamates surveys, interviews, and secondary data to offer a nuanced understanding.

Understanding the Landscape

Loss aversion, a well-explored psychological phenomenon, plays a pivotal role in financial decision-making, particularly in the realm of investments. Despite India's economic prowess, the equity market's participation rates remain relatively low, a phenomenon attributed to factors such as loss aversion and risk-averse behaviour. Recognising and addressing these biases become imperative for effective financial planning and investment management.

Unveiling Objectives

The research unfolds with four distinct objectives. Firstly, it investigates the prevalence of loss aversion among Indian investors, utilizing empirical data collected through surveys and experiments. Secondly, it dives into the contributing factors, exploring cultural, demographic, and socio-economic elements that fuel loss aversion. Thirdly, the study evaluates the impact of loss aversion on investment choices and portfolio allocation among Indian investors. Finally, it aims to propose strategies for mitigating the adverse effects of loss aversion, fostering rational decision-making.

Significance of the Study

This research carries immense significance in various spheres. It informs policymakers about the factors influencing Indian investors, aiding in the formulation of targeted strategies to boost equity market participation. Additionally, it contributes to investor education by shedding light on loss aversion and other behavioural biases, paving the way for more effective financial literacy programs. Moreover, wealth management and financial advisory firms stand to benefit by tailoring their services based on insights into the behavioural tendencies of Indian investors.

Journey into Findings

The research journey unfolds with intriguing findings. A positive correlation emerges between higher income and risk tolerance, indicating that those with greater financial security tend to be more risk-tolerant. Contrarily, experience in the financial market shows minimal impact on risk aversion. Gender does not significantly influence investment duration, opening avenues for further exploration into factors like income, education, and cultural influences.

Correlation between years of investment and the probability of loss surfaces, revealing a delicate dance between time and risk. Thematic analysis brings forth the narrative of significant loss aversion and risk-averse behaviour among Indian investors. This aligns seamlessly with behavioural finance principles, underlining the sway of cognitive biases and emotions in shaping investment decisions.

The research delves into the impact of macro news events in India, uncovering the influence of stock market movements, political developments, and budget announcements on loss aversion and risk-taking behaviour. Psychological biases such as anchoring, herd mentality, and status quo bias emerge as critical factors shaping investor responses to these events.

In conclusion, this research unravels the intricate web of loss aversion in the context of Indian investors. It underscores the need for policymakers, financial institutions, and investors to comprehend the multifaceted factors that mold investment decisions. The findings pave the way for more effective strategies to manage risks and make informed decisions in India's dynamic financial landscape. As we embark on this journey of understanding investor behavior, the insights gained promise to reshape the way we approach financial decision-making in the Indian context.

Impact of ESG Score on Stock Prices: A Nifty 50 Study

-Aastha Shukla

What is ESG?

ESG is a framework that helps stakeholders understand how an organization manages risks and opportunities related to environmental, social, and governance criteria.

Environment	Environmental factors refer to an organization's environmental impact(s) and risk management practices.
Social	The social pillar refers to an organization's relationships with stakeholders.
Governance	Corporate governance refers to how an organization is led and managed.

ESG Investing

ESG investing is a strategy that investors use to create investment portfolios that take environmental, social, and governance (ESG) considerations into account while generating financial returns and making a good impact on society. Additionally, it tries to evaluate the sustainability of companies by giving them ESG ratings.

Because of the following, many investors apply the ESG principles when making investments in funds:

- They believe it is consistent with their worldview of freedom and justice; they notice that they receive a better return when they follow the most recent trends in ESG investing.
- The ESG investing companies are more considerate of people, the environment, and society.
- The ESG investing funds dissuade businesses from investing in damaging ventures like sex discrimination, war, and pollution.

Problem Statement

- In recent years, Environmental, Social, and Governance (ESG) considerations have gained significant traction as key indicators of a company's sustainable and responsible business practices. The Nifty 50 Index, comprising India's top-performing companies, serves as a crucial benchmark for investors and stakeholders in the Indian stock market. However, the relationship between ESG scores and the performance of companies within the Nifty 50 remains a relatively unexplored area.

- This Article seeks to address the following key questions:

1. **Correlation between ESG Scores and Financial Performance:** To what extent do the ESG scores of companies within the Nifty 50 correlate with their financial performance, and how does this relationship manifest across different sectors?

2. **Investor Perception and Market Response:** How do investors perceive and respond to companies with high or low ESG scores in the Nifty 50? Do variations in ESG scores influence investment decisions and market valuations?

Specific Aim

This dissertation seeks to investigate the connection between Indian company stock performance, and ESG. Goal involved in this: This analysis will look at how Indian enterprises' ESG scores relate to their stock price.

Empirical Findings and Analysis

- **ESG and Stock Price**

High ESG Score Companies

Sr. No.	Company Name	Industry	2017	2018	2019	2020	2021	2022	2023	Average
1	Infosys Ltd.	Information Technology	4.31	4.22	4.46	4.91	5.44	6.42	6.75	5.215714286
2	LTIMindtree Ltd.	Information Technology	3.34	3.63	3.89	3.95	4.55	4.53	5.54	4.204285714
3	Wipro Ltd.	Information Technology	3.45	3.62	4.15	4.37	3.95	4.51	4.73	4.111428571
4	IndusInd Bank Ltd.	Financial Services	2.09	2.96	4.48	3.99	5.57	4.53	4.51	4.018571429
5	Tech Mahindra Ltd.	Information Technology	3.5	3.75	3.57	3.86	4.38	4.53	4.53	4.017142857
6	Tata Steel Ltd.	Metals & Mining	3.25	3.35	3.89	3.89	3.89	4.16	4.57	3.857142857
7	UltraTech Cement Ltd.	Construction Materials	3.37	3.79	4	4.1	4.07	3.38	3.38	3.727142857
8	Tata Consultancy Services Ltd.	Information Technology	3.03	2.97	3.48	3.41	4.02	4.58	4.46	3.707142857
9	Reliance Industries Ltd.	Oil Gas & Consumable Fuels	3.66	4.75	3.38	3.17	3.15	3.78	3.98	3.695714286
10	Cipla Ltd.	Healthcare	1.95	2.71	4.37	3.94	4.02	4.31	4.46	3.68

Table 1 Companies representing the highest ESG score, their industry, individual ESG scores each year, average ESG

Year	Infosys	LTIMindtree	Wipro	IndusInd Bank Ltd.	Tech Mahindra Ltd.	Tata Steel Ltd.	UltraTech Cement Ltd.	Tata Consultancy Services Ltd.	Reliance Industries Ltd.	Cipla Ltd.
2017	1039.3	1116.55	313.4	1650.25	503.85	732.45	4320.8	2700.4	921.05	607.15
2018	659.85	1725.35	330.3	1599.05	721.1	521.85	4002.7	1893.55	1121.05	520
2019	731.75	1748.7	246	1510.6	762.6	472	4046.85	2161.3	1514.1	478.45
2020	1255.9	3658.25	386.3	894.95	973.05	643.55	5284.65	2870.2	1984.65	819.85
2021	1889.7	7328.15	715.2	887.65	1790.55	1111.5	7591.95	3736.85	2368.15	944.3
2022	1508.7	4364.25	392.8	1221.5	1016.5	112.65	6959.05	3259.25	2548.2	1075.05
2023	1437	5472.55	396	1475.65	1198.45	125.9	8545.5	3457.6	2394.3	1198.85

Table 6 Descriptive statistics of portfolio including companies the high ESG score Low ESG Score Companies

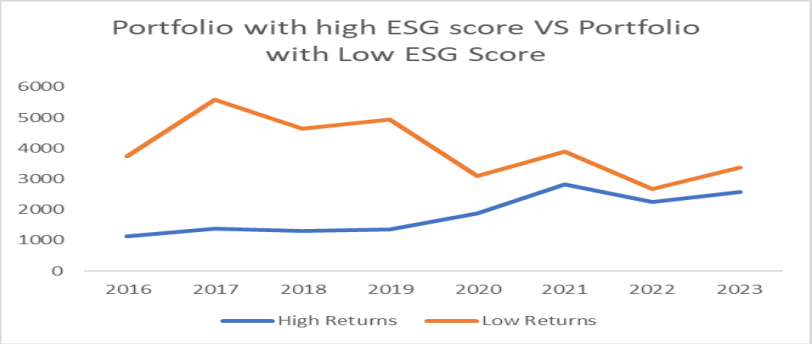
Sr. No.	Company Name	Industry	2017	2018	2019	2020	2021	2022	2023	Average
1	Bajaj Auto Ltd.	Automobile and Auto Components	1.2	1.27	1.21	1.56	1.2	1.49	1.49	1.345714286
2	Bajaj Finserv Ltd.	Financial Services	1.2	1.37	1.53	1.54	1.38	1.41	1.93	1.48
3	SBI Life Insurance Company Ltd.	Financial Services	1.05	1.05	1.03	1.19	1.99	2.01	2.06	1.482857143
4	Titan Company Ltd.	Consumer Durables	1.55	1.49	1.65	1.8	1.73	1.75	1.75	1.674285714
5	Hero MotoCorp Ltd.	Automobile and Auto Components	1.47	1.7	1.69	1.65	1.81	1.98	1.98	1.754285714
6	Kotak Mahindra Bank Ltd.	Financial Services	1.82	1.85	1.69	1.83	1.82	2.04	2.04	1.87
7	Eicher Motors Ltd.	Automobile and Auto Components	1.26	1.28	2.32	1.91	2.54	2.63	2.63	2.081428571
8	Maruti Suzuki India Ltd.	Automobile and Auto Components	1.65	1.64	2.21	2.23	2.19	2.26	2.48	2.094285714
9	Sun Pharmaceutical Industries Ltd.	Healthcare	1.5	1.59	2.13	2.2	2.47	2.51	2.51	2.13
10	Hindalco Industries Ltd.	Metals & Mining	2.21	2.15	2.04	2.11	2.52	2.73	2.73	2.355714286

Table 3 Companies representing the lowest ESG score, their industry, individual ESG scores each year, and average ESG

Year	Bajaj Auto Ltd.	Bajaj Finserv Ltd.	SBI LIC Ltd.	Titan Co. Ltd.	Hero MotoCorp Ltd.	Kotak Bank Ltd.	Eicher Motors Ltd.	Maruti Suzuki India Ltd.	Sun Pharma Ind. Ltd.	Hindalco Ind. Ltd.
2017	3323.2	5238.4	693.6	856	3786.3	1009.1	30290.55	9731.35	570.8	273.7
2018	2718.5	6481.3	596.45	929.95	3105.7	1254.75	23168.5	7462.3	430.65	226.1
2019	3185.5	9388.55	961.8	1187.6	2443.85	1684.5	22512.7	7367.2	432.5	216.1
2020	3447.2	8904.45	904.25	1567.5	3109.35	1995.4	2530.15	7649.7	592.35	240.5
2021	3250.8	16390.2	1196.25	2524.35	2461.3	1796.3	2589.95	7426.9	845.4	475.6
2022	3615.9	1548.45	1231.6	2597.95	2737.05	1826.45	3229.1	8402.65	1000.7	473.25
2023	5929.8	1617	1409.6	3398.6	3546.9	1743	3847.1	10518.1	1196.4	508

Table 4 Companies representing the lowest ESG score, their industry, closing stock price

Portfolio with the highest ESG score VS Portfolio with the lowest ESG score



The portfolio with a low ESG score is represented by the orange line. Additionally, the portfolio with a high ESG score is represented by the blue line. The graphic indicates that while the other portfolio is more volatile, the portfolio with the higher ESG score increases more steadily.

Descriptive Statistics

High ESG Score Companies

Particulars	Infosys	LTIMindtree	Wipro	IndusInd Bank Ltd.	Tech Mahindra Ltd.	Tata Steel Ltd.	UltraTech Cement Ltd.	Tata Consultancy Services Ltd.	Reliance Industries Ltd.	Cipla Ltd.
Mean	1195.919049	3372.742408	377.1330711	1208.17199	942.2237688	564.693844	5571.173187	2808.281464	1869.421717	780.6930917
Standard Error	9.748632568	44.689714	3.282220516	10.28046892	7.506593532	10.07555776	42.6756198	16.97291646	15.4591697	6.049129978
Median	1274.425	3328.55	368.925	1178.375	927.375	498.175	5064.675	3052.4	2007.925	786.6
Mode	1385.2	1593.3	237.7	1172.75	1019.6	107.7	4114.25	2708.45	2314.3	638.15
Standard Deviation	372.7497735	1708.760757	125.49934	393.0851259	287.0229254	385.2501206	1631.749683	648.9782768	591.0984914	231.2951907
Sample Variance	138942.3936	2919863.326	15750.08435	154515.9162	82382.15972	148417.6555	2662606.864	421172.8087	349397.4265	53497.46524
Kurtosis	-1.28350557	-1.13621619	0.010891812	-0.543630562	-0.126992326	-0.48997331	-1.429401605	-1.496759301	-1.483569248	-1.17718712
Skewness	-0.08331641	0.370234907	0.820220656	-0.048044717	0.713066701	0.708490478	0.295292493	-0.165585115	-0.218419263	0.149626361
Range	1412.65	6470.6	559.6	1720.35	1315.7	1423.9	5780.95	2383	1957.2	897.05
Minimum	526.7	1089.85	161.95	301.2	490.55	95.25	3011.95	1686.1	882.8	374.6
Maximum	1939.35	7560.45	721.55	2021.55	1806.25	1519.15	8792.9	4019.1	2840	1271.65
Sum	1748433.65	4930949.4	551368.55	1766347.45	1377531.15	825582.4	8145055.2	4105707.5	2733094.55	1141373.3
Count	1462	1462	1462	1462	1462	1462	1462	1462	1462	1462

Table 5 Descriptive statistics of portfolio including companies the high ESG score

Low ESG Score Companies

Particulars	Bajaj Auto Ltd.	Bajaj Finserv Ltd.	SBI Life Insurance Company Ltd.	Titan Company Ltd.	Hero MotoCorp Ltd.	Kotak Mahindra Bank Ltd.	Eicher Motors Ltd.	Maruti Suzuki India Ltd.	Sun Pharmaceutical Industries Ltd.	Hindalco Industries Ltd.
Mean	3425.498863	7750.530609	945.803245	1696.994254	2825.548769	1599.04015	11477.63622	7759.130985	679.6869015	313.4002052
Standard Error	17.92621363	125.8655755	6.33741991	19.85551417	10.51289918	7.387783631	263.4237434	32.88397782	6.126512076	3.322088576
Median	3273.725	6777.675	924.425	1424.75	2779.45	1700.3	3531.875	7498.475	602.075	253.9
Mode	2852.5	1508.5	1135.1	888.7	3685.8	1763.9	2154.15	9386.75	576.3	216.25
Standard Deviation	685.4286511	4812.609812	242.3182759	759.1975959	401.9723547	282.4800971	10072.29886	1257.355347	234.253981	127.0237395
Sample Variance	469812.4358	23161213.2	58718.14682	576380.9897	161581.7739	79795.00528	101451204.3	1580942.468	54874.92763	16135.0304
Kurtosis	0.451125844	-0.488126518	-1.317397283	-1.155427598	0.288835594	-1.13100811	-1.389468602	-0.325921295	-1.050959046	-1.272604551
Skewness	0.823653533	0.564569071	0.047734173	0.524306002	0.190316491	-0.374718042	0.508650681	0.066718383	0.494093668	0.280651653
Range	3996.25	17830.85	920.7	2679.3	2246.25	1210.5	29528	6780.35	880.3	543.05
Minimum	1933.55	1223.2	509.3	750.35	1551.8	1000.05	2029.55	4011.65	324	87.95
Maximum	5929.8	19054.05	1430	3429.65	3798.05	2210.55	31557.55	10792	1204.3	631
Sum	5008080.8	11331275.75	1382764.35	2481005.6	4130952.3	2337796.7	16780304.15	11343849.5	993702.25	458191.1
Count	1462	1462	1462	1462	1462	1462	1462	1462	1462	1462

Table 6 Descriptive statistics of portfolio including companies the high ESG score

ESG INDEX and NIFTY 50 Statistics

Particulars	ESG INDEX CLOSING PRICES	NIFTY 50
Mean	231.0203762	14142.45663
Standard Error	1.55305984	86.78470167
Median	220.39	13521.475
Mode	168.41	10614.35
Standard Deviation	59.38296468	3318.309277
Sample Variance	3526.336494	11011176.46
Kurtosis	-1.610813699	-1.502441492
Skewness	0.15390129	0.183662274
Range	212.69	12582.1
Minimum	119.63	7610.25
Maximum	332.32	20192.35
Sum	337751.79	20676271.6
Count	1462	1462

These statistics provide an overview of the central tendency, dispersion, and shape of the distribution of stock prices for each company. The mean, median, and mode give insights into the central location of the data, while measures like standard deviation and range indicate the variability. Skewness and kurtosis provide information about the shape of the distribution. The count represents the number of observations for each company.

Correlation Test

High ESG Score Companies

1.

Particulars	Infosys ESG Rating	Infosys Closing Prices
Infosys ESG Rating	1	
Infosys Closing Prices	0.706008949	1

Particulars	LTIMindtree ESG Rating	LTIMindtree Closing Prices
LTIMindtree ESG Rating	1	
LTIMindtree Closing Prices	0.779153346	1

3.

Particulars	IndusInd Bank Ltd. ESG Rating	IndusInd Bank Ltd. Closing Prices
IndusInd Bank Ltd. ESG Rating	1	
IndusInd Bank Ltd. Closing Prices	-0.661258561	1

4.

Particulars	Wipro	Wipro
Wipro	1	
Wipro	0.062560874	1

5.

Particulars	Tech Mahindra Ltd. ESG Ratings	Tech Mahindra Ltd. Closing Prices
Tech Mahindra Ltd. ESG Ratings	1	
Tech Mahindra Ltd. Closing Prices	0.743632597	1

6.

Particulars	Tata Steel Ltd. ESG Ratings	Tata Steel Ltd. Closing Prices
Tata Steel Ltd. ESG Ratings	1	
Tata Steel Ltd. Closing Prices	-0.539382848	1

7.

Particulars	UltraTech Cement Ltd. ESG Ratings	UltraTech Cement Ltd. Closing Prices
UltraTech Cement Ltd. ESG Ratings	1	
UltraTech Cement Ltd. Closing Prices	-0.270136377	1

8.

Particulars	Tata Consultancy Services Ltd. ESG Ratings	Tata Consultancy Services Ltd. Closing Prices
Tata Consultancy Services Ltd. ESG Ratings	1	
Tata Consultancy Services Ltd. Closing Prices	0.774874088	1

9.

Particulars	Reliance Industries Ltd. ESG Ratings	Reliance Industries Ltd. Closing Prices
Reliance Industries Ltd. ESG Ratings	1	
Reliance Industries Ltd. Closing Prices	-0.350006614	1

10.

Particulars	Cipla Ltd. ESG Ratings	Cipla Ltd. Closing Prices
Cipla Ltd. ESG Ratings	1	
Cipla Ltd. Closing Prices	0.565488368	1

Company Name	AVERAGE ESG SCORE	AVERAGE CLOSING Prices
Infosys Ltd.	5.215714286	1218.307143
LTIMindtree Ltd.	4.204285714	3631.15
Wipro Ltd.	4.111428571	397.2571429
IndusInd Bank Ltd.	4.018571429	1320.257143
Tech Mahindra Ltd.	4.017142857	995.8428571
Tata Steel Ltd.	3.857142857	531.55
UltraTech Cement Ltd.	3.727142857	5847.714286
Tata Consultancy Services Ltd.	3.707142857	2870.285714
Reliance Industries Ltd.	3.695714286	1835.964286
Cipla Ltd.	3.68	805.2642857

Correlation Test of Average portfolio including companies the high ESG scores and ESG Score of High ESG Companies

	AVERAGE ESG SCORE	AVERAGE CLOSING Prices
AVERAGE ESG SCORE	1	
AVERAGE CLOSING Prices	-0.207958737	1

A correlation test was performed to look at the relationship between ESG score and stock price, respectively. The portfolio with a high ESG score is represented by the test that was done This demonstrates the substantial positive connection coefficient value of only 4 companies as can be seen in the above diagram these companies are Infosys, LTIMindtree, Tech Mahindra, and Tata Consultancy Ltd. between the ESG score and the closing price of the portfolio and only these companies have a high correlation between them.

And two more companies have a positive correlation between them but that relation is not that substantial. **On the other hand, there is a negative correlation between the average High ESG Score companies and the ESG rating of those companies.**

Low ESG Score Companies

1.

Particulars	Bajaj Auto Ltd. ESG Rating	Bajaj Auto Ltd. Closing Prices
Bajaj Auto Ltd. ESG Rating	1	
Bajaj Auto Ltd. Closing Prices	0.513288173	1

2.

Particulars	Bajaj Finserv Ltd. ESG Scores	Bajaj Finserv Ltd. Closing Prices
Bajaj Finserv Ltd. ESG Scores	1	
Bajaj Finserv Ltd. Closing Prices	-0.308248952	1

3.

Particulars	SBI Life Insurance Company Ltd. ESG Scores	SBI Life Insurance Company Ltd. Closing Prices
SBI Life Insurance Company Ltd. ESG Scores	1	
SBI Life Insurance Company Ltd. Closing Prices	0.901245661	1

4.

Particulars	Titan Company Ltd. ESG Score	Titan Company Ltd. Closing Prices
Titan Company Ltd. ESG Score	1	
Titan Company Ltd. Closing Prices	0.70935196	1

5.

Particulars	Hero MotoCorp Ltd. ESG Scores	Hero MotoCorp Ltd. Closing Prices
Hero MotoCorp Ltd. ESG Scores	1	
Hero MotoCorp Ltd. Closing Prices	-0.262369655	1

6.

Particulars	Eicher Motors Ltd. ESG Scores	Eicher Motors Ltd. Closing Prices
Eicher Motors Ltd. ESG Scores	1	
Eicher Motors Ltd. Closing Prices	-0.753673396	1

7.

Particulars	Maruti Suzuki India Ltd. ESG Scores	Maruti Suzuki India Ltd. Closing Prices
Maruti Suzuki India Ltd. ESG Scores	1	
Maruti Suzuki India Ltd. Closing Prices	0.139842948	1

8.

Particulars	Sun Pharmaceutical Industries Ltd. ESG Scores	Sun Pharmaceutical Industries Ltd. Closing Prices
Sun Pharmaceutical Industries Ltd. ESG Scores	1	
Sun Pharmaceutical Industries Ltd. Closing Prices	0.752927805	1

9.

Particulars	Hindalco Industries Ltd. ESG Scores	Hindalco Industries Ltd. Closing Prices
Hindalco Industries Ltd. ESG Scores	1	
Hindalco Industries Ltd. Closing Prices	0.973448267	1

10.

Particulars	Kotak Mahindra Bank Ltd.	Kotak Mahindra Bank Ltd.
Kotak Mahindra Bank Ltd.	1	
Kotak Mahindra Bank Ltd.	0.216589566	1

Company Name	AVERAGE ESG	AVERAGE CLOSING PRICES
Bajaj Auto Ltd.	1.345714286	3649.1
Bajaj Finserv Ltd.	1.48	7086.557143
SBI Life Insurance Company Ltd.	1.482857143	999.55
Titan Company Ltd.	1.674285714	1872.2
Hero MotoCorp Ltd.	1.754285714	3037.971429
Kotak Mahindra Bank Ltd.	1.87	1615.364286
Eicher Motors Ltd.	2.081428571	12592.85714
Maruti Suzuki India Ltd.	2.094285714	8368.178571
Sun Pharmaceutical Industries Ltd.	2.13	723.4
Hindalco Industries Ltd.	2.355714286	345.7857143

Correlation Test of Average portfolio including companies the high ESG scores and ESG Score of High ESG Companies

	AVERAGE ESG	AVERAGE CLOSING PRICES
AVERAGE ESG	1	
AVERAGE CLOSING PRICES	0.070010266	1

In the Low score ESG Portfolio There are also only four companies that have a significant Correlation relationship between the Stock price and ESG score of the companies and these companies are SBI Life Insurance, Sun Pharma, Titan, and Hindalco These companies have a Correlation which is 70% and above 70%. There are 2 companies that have a positive relationship but not that significant there are Bajaj Auto and Maruti Suzuki India and all others have a negative relationship between the ESG score and Closing Prices of low ESG Scores.

On the other hand, there is a **Positive correlation between the average Low ESG Score companies and the ESG rating of those companies and there is low positive correlation between the ESG score and Portfolio of Low rating companies.**

Regression Analysis

High ESG Score Companies

Particulars	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	5065.065594	5218.301287	0.9706349	0.3602	-6968.3588	17098.48994	-6968.35875	17098.48994
AVERAGE ESG SCORE	-775.3850362	1289.422382	-0.601343	0.5643	-3748.7984	2198.02831	-3748.79838	2198.02831

Regression analysis for a portfolio consisting of 10 companies with the highest ESG with stock price as the dependent variable

Coefficient (Estimate): The coefficient, often known as the estimate, shows how much the dependent variable is expected to change when the independent variable changes by one unit.

Standard Error: The coefficient estimate's variability is measured by the standard error. More accurate estimations are shown by smaller standard errors.

t-Statistic: The coefficient estimate's standard deviation from zero is indicated by the t-statistic. To compute it, divide the coefficient by the standard error of the calculation.

P-value: Represents the likelihood of finding a t-statistic as extreme as the one derived from the sample, presuming the validity of the null hypothesis, which states that the true coefficient is zero. Stronger evidence against the null hypothesis is indicated by a lower p-value.

Intercept: For the Intercept, the p-value is 0.36, which is greater than the common significance level of 0.05. This suggests that the Intercept may not be statistically significant.

Average ESG: For the "Average ESG Score**," the p-value is 0.56, also greater than 0.05, indicating that the variable may not be statistically significant.**

Low ESG Score Companies

Particulars	*Coefficients*	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	2486.021453	7890.012434	0.31508	0.760759	-15708.37985	20680.42275	-15708.3798	20680.42275
Average ESG	844.6609967	4255.090178	0.19851	0.847601	-8967.594549	10656.91654	-8967.59455	10656.91654

Regression analysis for a portfolio consisting of 10 companies with the lowest ESG with stock price as the dependent variable

Intercept: When all independent variables are zero, the intercept shows the dependent variable's estimated value. The intercept in this instance is 2486.021, and the huge standard error is 7890.012. The intercept has a p-value of 0.761, which is higher than 0.05. This implies that the coefficient estimate might not deviate considerably from zero and that the intercept is not statistically significant.

Average ESG: The coefficient, with a standard error of 4255.090, is 844.661 for "Average ESG". With a t-statistic of 0.199 and a corresponding p-value of 0.848, both values are greater than 0.05. This suggests that there may **not be a statistically significant** difference between the coefficient estimate and 0 for the "Average ESG" variable.

In both cases, the p-values are relatively high, suggesting that neither the intercept nor the "Average ESG" variable is statistically significant at a conventional significance level of 0.05.

Conclusion

The purpose of this research was to determine whether ESG score has a substantial impact on stock performance and to examine the relationship between the components regarding the first and second research questions and the two hypotheses. in particular, how India's stock performance is impacted by sustainability as a growing country. It is clear from the actual results, analysis, and discussions that the impact of the ESG score on stock price is not substantial.

Bridging Fields and Funds: Crowdfunding Platforms Redefining Investments & addressing challenges in India's Agricultural Landscape.

-Aditya Bhati

The agricultural sector is a pivotal component of Indian economy, as per a report by IMARC; the value of India's agriculture industry reached Rs 80,550 Billion in 2022 and is projected to demonstrate a Compound Annual Growth Rate (CAGR) of 12.2% by 2028. However, this sector frequently encounters funding challenges.

Conventional financing approaches may prove inadequate, sparking a growing interest in alternative solutions. In addition, lack of agricultural mechanization, out dated agricultural practices, fragmented land holdings, limited crop diversification, Lack of Agricultural Research, etc. are some of the major problems this sector faces. Traditional financing channels may be impractical or burdensome for small- scale farmers and inventive agricultural initiatives.

Crowdfunding platforms have emerged as a promising option, providing a distinctive means to address the financial disparities in agro-investments. Crowdfunding offers a compelling substitute, facilitating wider participation, promoting sustainability, and nurturing innovation within agro-enterprises. In addition, in a larger contest it opens up the possibilities to address other problems also.

They are online intermediaries that connect individuals or businesses seeking funding with a diverse group of investors or contributors. These platforms leverage the collective financial support of a large number of people to fund projects, ventures, or initiatives. There are various types of crowdfunding, including reward- based crowdfunding, debt-based crowdfunding, and equity crowdfunding.

Equity Crowdfunding:

Equity crowdfunding permits investors to attain ownership stakes in agricultural ventures. In this framework, supporters become stakeholders, participating in both the successes and challenges of the project. Returns are typically linked to the profitability of the agricultural enterprise.

Debt Crowdfunding:

Debt crowdfunding entails investors lending money to agricultural projects, receiving periodic interest payments, and eventual repayment of the principal amount. This model provides a systematic approach to financial assistance.

Rewards-Based Crowdfunding:

Rewards-based crowdfunding offers supporters non-financial incentives, such as agricultural products or exclusive experiences, in exchange for their financial backing. This model encourages a sense of community engagement.

This new Age Agro-Investments encompass a broad spectrum of innovative strategies and technologies that have the potential to revolutionize agriculture & investments**.** These investments extend beyond conventional farming practices and encompassing ventures into precision agriculture, ag-tech start-ups, agro investment LLP Firms, sustainable agriculture, supply chain optimization, etc.

not only this Agro-Investments option offer a unique opportunity for investments but also aligns the financial objectives with broader societal goals, including reducing carbon footprints, enhancing resource efficiency, and supporting global efforts to achieve a more resilient and equitable food system.

Some popular crowdfunding platforms in India, which give investors an option to invest in agriculture sector and projects, are-

Growpital by zetta farm:

Established in 2014 and officially registered in 2020, Zetta Farms is an India based firm, represents a technology-driven farm project focused on sustainable farming practices. The company engages in cultivating a diverse range of crops, including various spices, coffee, tea, coconuts, and moong.

Growpital as its investment counterpart of Zetta Farm, utilizing funds raised from retail investors for farming operations. The harvested produce is subsequently sold to buyers such as McCain and PMV Maltings, with profits distributed among the investors.

Notably, there are no tax deductions on the returns received by investors, as these returns represent a share of the profits distributed by the Farm project entity, structured as a Limited Liability Partnership (LLP). The earnings of the LLP qualify as agriculture income and are exempted under Section 10(1) of the Income Tax Act, 1961 in India.

FAAB:

FAAB stands for "Farming as a Business. Started in 2018, FAAB is a fully integrated agriculture investment platform that curates quality investments for individuals to achieve financial returns through new-gen technology based precision farming. In order to guarantee sustainability and achieve profitable returns, FAAB Invest strategically utilizes proficient agronomists, plant doctors, and on-site personnel. This team is dedicated to the ongoing monitoring of plant growth, diligently documenting crucial growth parameters to ensure optimal outcomes.

It offers various investment products with different underlying farming projects to investors. In addition, the returns generated are generally tax-free as these investments are used to generate agriculture income which is tax free in India.

Risk Assessment:

As like other investment options, crowdfunding platforms also carries many risk factors, which an investor should keep in mind before investing with these
platforms. Some are-

Project-Specific Risks: Agro-investments are susceptible to uncertainties related to crop yields, market prices, and external factors like weather conditions. Fluctuations in agricultural markets can influence the financial returns of the project

Due Diligence Challenges: Investors may face challenges in conducting thorough due diligence on agro-investment projects. Limited access to comprehensive project data and the opacity of certain agricultural practices may result in information asymmetry

Uncertain Regulatory Landscape: The regulatory framework for crowdfunding, particularly in the context of agro-investments, may be evolving. Changes in regulations can influence investor protection, project compliance, and the overall stability of crowdfunding in agriculture.

Global Economic and Market Risks: Agro-investments, like any other investment, are susceptible to global economic downturns. Economic instability can affect consumer demand, market prices, and the overall profitability of agro- businesses.

Fraud and Mismanagement: There is a risk of fraudulent activities or mismanagement by project owners. Investors should be cautious about the credibility and integrity of individuals or entities initiating agro-investment projects on crowdfunding platforms.

In conclusion, the Crowdfunding Platform, a new age agro-investments beckons a new era of responsible, diverse, and innovative agricultural finance. Through strategic vision, and a commitment to sustainability, investors can navigate this dynamic landscape and contribute to the sustainable growth of the agricultural sector.

‘The Role of Macroeconomic Variables in Predicting Mutual Fund Markets in India'

-Siddhesh Lad

Introduction:

The mutual fund market in India has experienced significant growth in recent years, attracting both retail and institutional investors. To make informed investment decisions in this dynamic market, it is crucial to analyse various macroeconomic factors. These factors play a pivotal role in shaping investment choices, as investors strive to assess associated risks and rewards. This article delves into the findings of a comprehensive study that explores the relationship between macroeconomic variables and the mutual fund market in India.

Research Objectives:

The primary objectives of the study were as follows:

To examine the nature of causal relationships between macroeconomic variables and mutual fund markets.

To determine the significance of combined lag effects of independent variables on the mutual fund markets in India.

Methodology:

The study employed Vector Auto Regression (VAR) and Forecast Error Variance decomposition techniques to investigate the existence of causal relationships and assess the impact of macroeconomic variables on the mutual fund market. The selected macroeconomic variables included the India Consumer Price Index (CPI), USD/INR Currency Exchange Rate, India 10-Year Government Bond Yield (GIND10YR), Nifty 50 Index, Index of Industrial Production (IIP), and RBI Bank Rate.

Findings:

ADF Stationary Test (Augmented Dickey-Fuller Test)

All variables in the above table are stationary in nature. The p-values for all the tests are extremely low, indicating a high level of Significance. This means that we can confidently reject the null hypothesis which is series is non-stationarity.

VAR Estimation Results

TNIFTYG and Eco indicator

The model does not appear to have a strong overall fit, and none of the individual variables are statistically significant at conventional levels. However, the variable INPIINDY.l1 is close to being significant, so it might be worth further investigation.

TAINTIG and Eco indicator
The model provides some evidence that TAINTIG.l1 and INPIINDY.l1 are statistically significant predictors of the current TAINTIG. Nifty50.l1 is marginally significant. The overall model fit, while not very high (9.6% R-squared), shows some explanatory power. However, the significance level of the F- statistic is close to 0.05, suggesting that caution is needed in interpreting the overall significance of the model.

SBEES and Eco indicator

The model appears to have a reasonable overall fit, explaining a substantial portion of the variability in SBEES. Some variables, such as USD.INR, Nifty50, and GIND10YR, seem to be important predictors. The multiple lags indicate a potential time dependence in the data. The F-statistic is very low, indicating that the model is statistically significant

KOTSS and Eco indicator

The model does not appear to have a strong overall fit, and none of the individual variables are statistically significant at conventional levels. However, Nifty50.l1 is marginally significant, suggesting it might be worth further investigation. The overall explanatory power of the model is limited (9.41% R-squared), and the F-statistic is not highly significant.

S100ERG and Eco indicator

The model appears to have an excellent fit, explaining a substantial portion of the variability in S100ERG. Multiple lags of the variables are considered, and several coefficients are statistically significant, indicating their importance in predicting S100ERG. The high R-squared values and the highly significant F-statistic suggest that the model is statistically significant and fits the data well.

BOIEXGR and Eco indicator

The model does not appear to have a strong overall fit, and only BOIEXGR.l1 and Nifty50.l1 are statistically significant predictors at the 0.05 significance level. The overall explanatory power of the model is limited (9.42% R-squared), and the F-statistic is not highly significant.

LICINFG and Eco indicator
The model appears to have a strong overall fit, explaining a substantial portion of the variability in LICINFG. Some coefficients are statistically significant, indicating their importance in predicting LICINFG. The high R-squared values and the highly significant F-statistic suggest that the model is statistically significant and fits the data well.

JMCO11G and Eco indicator

The model does not appear to have a strong overall fit, and only a few coefficients (JMCO11G.l1, Nifty50.l1, RBIBKRTE.l2) are statistically significant. The overall explanatory power of the model is limited (12.35% R-squared), and the F-statistic is not highly significant.

1. QINDEX and Eco indicator

The overall fit of the model appears limited, as indicated by a relatively low R-squared value and a non-significant F-statistic. Only the coefficient for INPIINDY.l2 is statistically significant at the 0.05 level, suggesting a potential association with QINDEX.

2. TAULTAX and Eco indicator

The model appears to have a high explanatory power, as indicated by the high R-squared values and the statistically significant F-statistic. Nifty50.l3 is particularly influential in explaining the variation in TAULTAX, as it has a highly significant positive coefficient. CPI.l2 and USD.INR.l2 also show some significance.

3. HDFMCOG and Eco indicator

The model shows some explanatory power, as indicated by the statistically significant F-statistic. However, the adjusted R-squared is relatively low, suggesting that the model may not capture a substantial portion of the variation in HDFMCOG. The positive coefficients for INPIINDY.l1 and RBIBKRTE.l1 suggest that these variables may have a positive impact on HDFMCOG.

4. PRUFERG and Eco indicator

The regression analysis of PRUFERG reveals that PRUFERG.l1, INPIINDY.l1, and RBIBKRTE.l1 show positive associations with PRUFERG, though not statistically significant. GIND10YR.l1 and Nifty50.l1 exhibit marginally significant negative associations, while CPI.l1 and USD.INR.l1 are not statistically significant. The model, with a multiple R-squared of 10.6%, modestly explains PRUFERG variability. The F-statistic suggests overall statistical significance

5. ZINDEQG and Eco indicator

The regression analysis of ZINDEQG indicates that ZINDEQG.l1 is marginally significant, with a positive coefficient. Nifty50.l1 and INPIINDY.l2 are statistically significant predictors of ZINDEQG. While the model overall is statistically significant, explaining 19.52% of ZINDEQG variability, caution is warranted due to non-significant coefficients.

6. KOSEGOG and Eco indicator

The regression analysis for KOSEGOG suggests that KOSEGOG.l1 and INPIINDY.l1 are marginally significant predictors, with positive coefficients. While the overall model is statistically significant, explaining approximately 11.33% of KOSEGOG variability, caution is advised due to non-significant coefficients for other variables.

7. SBIBLUG and Eco indicator

The regression analysis for SBIBLUG highlights marginal significance for SBIBLUG.l1, Nifty50.l1, and INPIINDY.l2, indicating potential associations. While the model is statistically significant, explaining approximately 20.48% of SBIBLUG variability, caution is warranted due to non-significant coefficients for other variables.

8. RELSCDV and Eco indicator

The regression analysis for RELSCDV underscores the significance of RELSCDV.l1, Nifty50.l1, and INPIINDY.l1, providing valuable insights into their associations. Although the model is statistically significant, explaining approximately 14.1% of RELSCDV variability

9. MAINORG and Eco indicator

The regression analysis for KOEMEQG highlights the significant impact of CPI.l1 and CPI.l2 on KOEMEQG, contributing to approximately 20.44% of its variability. While other coefficients lack statistical significance, the overall model is deemed significant, urging consideration of additional factors for a more comprehensive understanding of KOEMEQG dynamics.

10. KOEMEQG and Eco indicator

The regression analysis for KOEMEQG emphasizes the significance of KOEMEQG.l1, KOEMEQG.l2, Nifty50.l1, and INPIINDY.l2 in explaining approximately 26.22% of the variability in KOEMEQG. While certain coefficients lack statistical significance, the overall model exhibits a high level of significance, underscoring the importance of the identified variables in understanding KOEMEQG dynamics.

11. PRIDISG and Eco indicator

The regression analysis for PRIDISG underscores the significance of PRIDISG.l1, Nifty50.l1, and RBIBKRTE.l1 in explaining approximately 16.91% of the variability in PRIDISG. While INPIINDY.l1 is marginally significant, other coefficients lack statistical significance. The overall model exhibits high significance, emphasizing the relevance of identified variables in understanding PRIDISG dynamics.

12. AXTAXSG and Eco indicator

The regression analysis for AXTAXSG emphasizes the significance of AXTAXSG.l1, USD.INR.l1, INPIINDY.l1, and RBIBKRTE.l1, explaining approximately 11.77% of the variability in AXTAXSG. While other coefficients lack statistical significance, RBIBKRTE.l1 is marginally significant at the 0.05 level. The overall model demonstrates statistical significance, providing insights into the identified variables' influence on AXTAXSG.

Conclusion:

The study concluded that while macroeconomic variables have a direct and significant impact in few cases and not in others in mutual fund market in India, historical performance remains a crucial determinant. Investors and fund managers should consider the historical performance of mutual funds and economic indicators when making investment decisions. This comprehensive analysis offers valuable insights into the complex interplay between macroeconomic factors and the mutual fund market, enabling investors to navigate the market more effectively.

Major events and its impact on the Co-movement of Indian markets with international markets.

- **R**. Om Prakash Nayak

The world of global finance is a complex and interconnected web, where the economic fate of one nation intertwines with others, creating a dynamic and ever-changing landscape. In this intricate dance, major events emerge as pivotal moments that can reshape the relationships between countries, influencing economic ties and market behaviours. The correlation between India and other nations during these significant events becomes a compelling area of study, offering profound insights into the nuanced dynamics of international finance.

The primary aim of this research is to explore and analyze how major events shape the correlation between India and other countries, providing a comprehensive view of the evolving nature of international financial relationships. The specific objectives include identifying significant events, examining correlation patterns before, during and after these events.

Correlation between India and International countries (Covid-19):

S.No.	*Countries*	*pre*	*during*	*post*
1	US	0.1209	-0.1199	0.1872
2	China	0.0298	0.0324	-0.0600
3	Japan	0.0791	-0.0046	-0.0268
4	Germany	0.0845	0.1610	0.0376
5	U.K	-0.0279	0.1666	0.2541
6	France	0.0351	0.1020	0.0487
7	Russia	0.0026	-0.0010	-0.0439
8	Canada	-0.0568	0.3555	0.1492

The correlation values between India and several key countries during different phases of the COVID-19 event offer valuable insights into the dynamics of global financial relationships. Let's delve into the specifics:

1. **United States (US):**

Pre-Event: A positive correlation suggests a relatively synchronized movement with the Indian market before the pandemic.

During the Event: The negative correlation during the event indicates a divergence in market movements, possibly influenced by unique economic responses.

Post-Event: The positive correlation resuming post-event implies a return to a more aligned market behavior.

2. **China:**

Pre-Event: A positive correlation, indicating a general alignment with India's market trends.

During the Event: The slightly positive correlation amidst the pandemic suggests some resilience in shared market movements.

Post-Event: The negative correlation post-event indicates a divergence in economic trajectories.

3. **Japan, Germany, U.K, France, Russia, Canada:**

Pre-Event: Various countries show diverse correlation patterns, ranging from positive to negative, reflecting distinct economic ties with India.

During the Event: The diverse shifts in correlation during the event highlight the varied impacts of the pandemic on these relationships.

Post-Event: Post-pandemic, there is a mix of positive and negative correlations, underlining the evolving nature of global economic connections.

Overall Implications: The fluctuating correlation values during and after the COVID-19 event emphasize the nuanced and multifaceted nature of global financial interactions. Understanding these changes is essential for investors, policymakers, and businesses to navigate the evolving economic landscape, plan for contingencies, and make informed decisions in an interconnected world

Correlation between India and International countries (2008-GFC):

S.No.	*Countries*	*pre*	*during*	*post*
1	US	0.1970	0.0475	0.0452
2	China	0.0464	0.0123	0.1240
3	Japan	0.0721	0.1091	0.0705
4	Germany	-0.021	0.0023	0.1206
5	U.K	0.1367	-0.0349	0.1625
6	France	-0.0032	0.0917	0.0837
7	Russia	-0.0149	0.1164	0.0309
8	Canada	0.0656	0.029	0.0870

1. **United States (US):**

Pre-Crisis: A strong positive correlation suggests a synchronized movement with the Indian market before the crisis, indicative of interconnected economies.

During the Crisis: The positive correlation during the crisis, though reduced, implies a continued association despite economic challenges.

Post-Crisis: The positive correlation post-crisis indicates a return to a more aligned market behavior, reflecting the recovery phase.

2. **China:**

Pre-Crisis: A positive correlation, signaling a general alignment with India's market trends before the crisis.

During the Crisis: The reduced positive correlation during the crisis suggests some divergence in market movements influenced by the global financial turmoil.

Post-Crisis: The post-crisis positive correlation indicates a gradual realignment in economic ties.

3. Japan, Germany, U.K, France, Russia, Canada:

Pre-Crisis: Diverse correlation patterns before the crisis highlight the unique economic relationships between India and these countries.

During the Crisis: Varied shifts in correlation during the crisis emphasize the differentiated impacts of the global financial turmoil on these connections.

Post-Crisis: The mix of positive and negative correlations post-crisis underlines the evolving nature of global economic ties in the aftermath of the financial crisis.

Overall Implications: The changing correlation values throughout the different phases of the 2008 GFC showcase the resilience and adaptability of India's financial relationships with various countries.

The exploration of the correlation dynamics between India and prominent international economies during two pivotal periods – the Covid-19 pandemic and the 2008 Global Financial Crisis (GFC) – has provided valuable insights into the resilience and adaptability of global financial relationships.

Covid-19 Pandemic: The data analysis during the Covid-19 pandemic reveals a mixed pattern of correlation shifts. The United States experienced a notable decrease in correlation during the event, indicative of divergent market movements. In contrast, China exhibited a relatively stable correlation, while the United Kingdom demonstrated a substantial increase post-event. These variations underscore the nuanced responses of different economies to the unprecedented challenges posed by the pandemic.

2008 Global Financial Crisis: In the aftermath of the 2008 GFC, the correlation dynamics present a different narrative. The United States, the epicenter of the crisis, witnessed a significant increase in correlation post event, reflecting a return to synchronized market movements. China, Germany, and the United Kingdom also displayed positive correlation shifts post-crisis, indicating a renewed alignment in economic trajectories.

Comparative Analysis: Comparing the two periods, it is evident that the impact of major events on the correlation between India and international countries is multifaceted. The Covid-19 pandemic introduced a degree of divergence, emphasizing the unique economic responses of nations during a global health crisis. Conversely, the 2008 GFC triggered a more unified post-crisis correlation pattern, indicative of a collective recovery phase.

Unlocking Profitable Opportunities: A Deep Dive into Pair Trading Strategies in the Indian Financial Market

-Nikesh

Introduction:
Financial markets, with their ever-changing landscape influenced by diverse factors, provide a complex backdrop for investors. In this dynamic environment, strategies that capitalize on market inefficiencies gain traction. Pair trading, a form of statistical arbitrage, has emerged as a powerful tool to exploit relative mispricing between related assets. This article delves into a comprehensive dissertation that focuses on applying pair trading strategies within the Indian financial market, shedding light on potential avenues for investors seeking to navigate and capitalize on market
inefficiencies.

Understanding Pair Trading:
Pair trading, also known as statistical arbitrage or relative value trading, involves the simultaneous purchase of one security and the sale of another. The strategy aims to capitalize on the relative performance of two assets, profiting from the convergence or divergence of their prices. It operates under the assumption that certain relationships between securities are mean-reverting over time, presenting opportunities for profit when deviations occur.

Rationale for Pair Trading in Indian Markets:
The Indian financial landscape, marked by significant growth and transformation, comprises diverse sectors contributing to overall market dynamics. This study focuses on six major sectors: Nifty 50, Nifty Bank, Nifty Metal, Nifty IT, Nifty FMCG, and Nifty Auto. Each sector represents a key segment of the economy, reflecting the strategic importance and diversity of the Indian market.

Methodology:
The study spans the period from 2018 to 2023 and employs a robust methodology. Initial steps involve the selection of sectors, data collection from the renowned financial database ProwessIQ, and correlation analysis to identify potential pairs for trading. Cointegration methods and unit root tests assess the stationarity of selected pairs. Daily returns, pair trading strategy returns, and beta values are calculated to gauge potential profitability and assess market risk.

METHODOLOGY

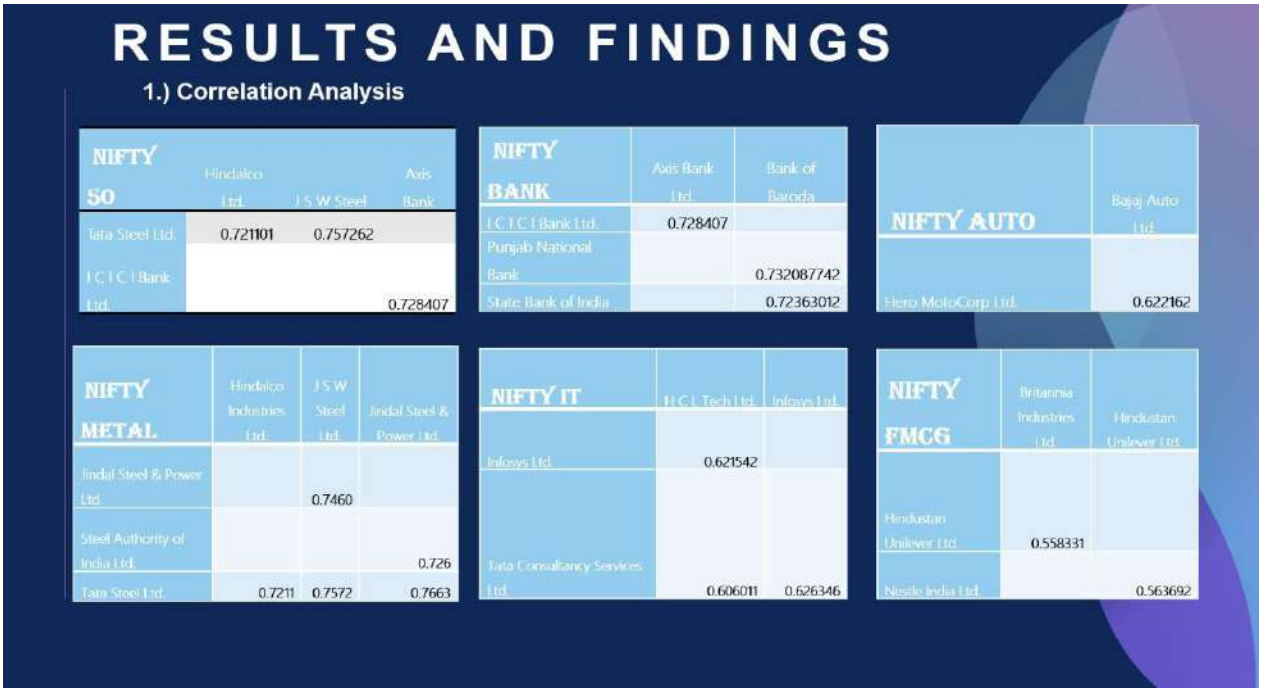
Selection of Sectors	Data Collection	Correlation Analysis	Cointegration and Unit Root Test
The focus on Nifty 50, Nifty Bank, Nifty Metal, Nifty IT, Nifty FMCG, and Nifty Auto in the study is driven by the pivotal roles these sectors play in the Indian financial landscape.	The data collected spans from 2018 to 2023 and focuses on the **daily adjusted closing** prices of the selected sectors. The use of adjusted closing prices is crucial as it accounts for corporate actions such as dividends and stock splits, providing a more accurate representation of stock values over time.	Correlation analysis is a crucial step in identifying pairs with potential for pair trading strategies. In this methodology, the correlation between the daily closing prices of selected sectors stocks is examined. 1). Correlation Coefficient Calculation 2). Correlation Matrix 3) Selection of Pairs for Further Analysis	Slope and Intercept Calculation Cointegration Price Calculation Calculation of X (Residuals) and Delta X (Residual Changes) Lagged X Calculation Unit Root Test Calculation

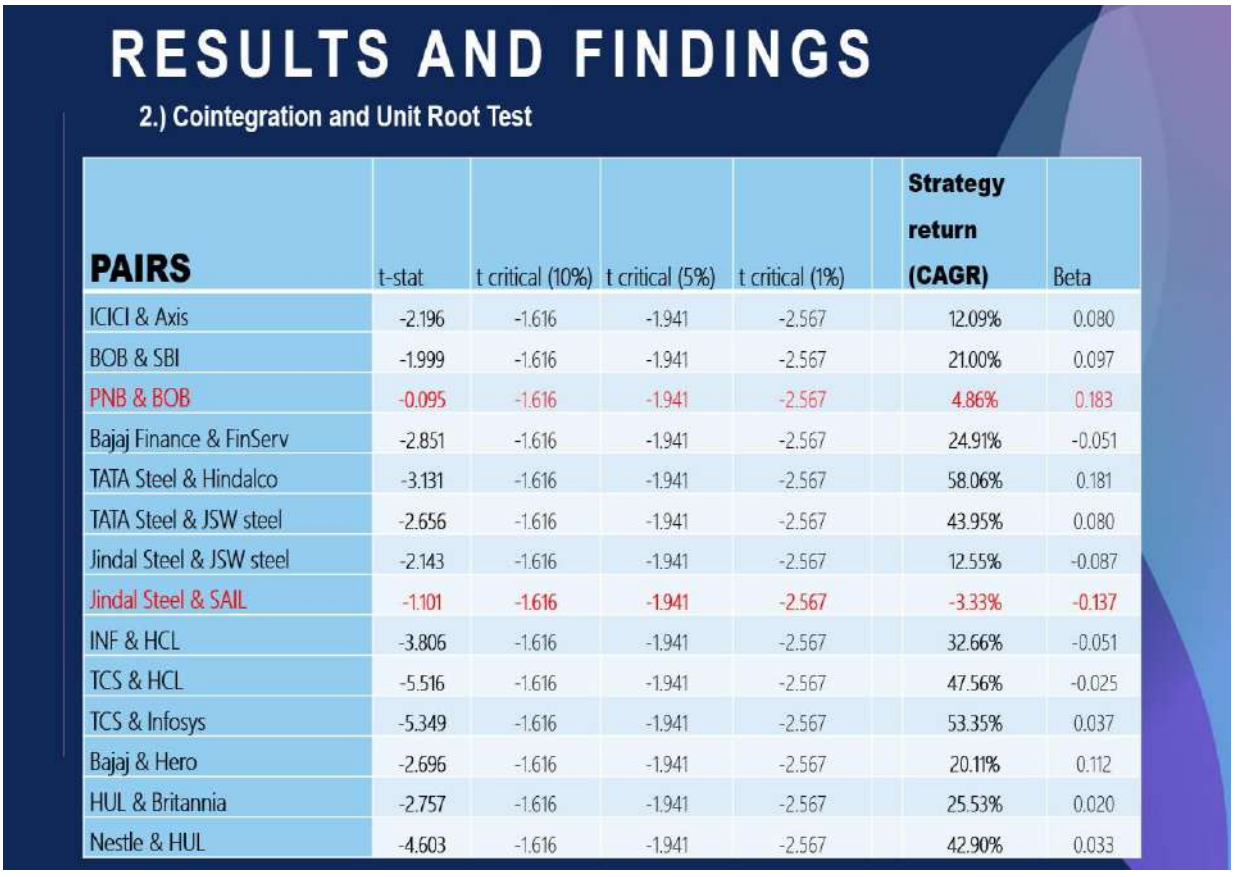
METHODOLOGY

Daily Returns Calculation	Strategy Return Calculation	Beta Calculation
Daily returns for each stock are computed, forming the basis for the subsequent pair trading strategy. This process involves deriving the percentage change in the closing prices of each stock from one trading day to the next	Utilizing the cointegration relationship, a pair trading strategy is implemented by taking long positions on one stock and short positions on the other based on the sign of the cointegration coefficient	For each pair, the beta coefficient is calculated to quantify the relationship between the individual stock and the market index. Beta serves as a measure of systematic risk, providing insights into the pairs' sensitivity to market movements

Results and Findings:

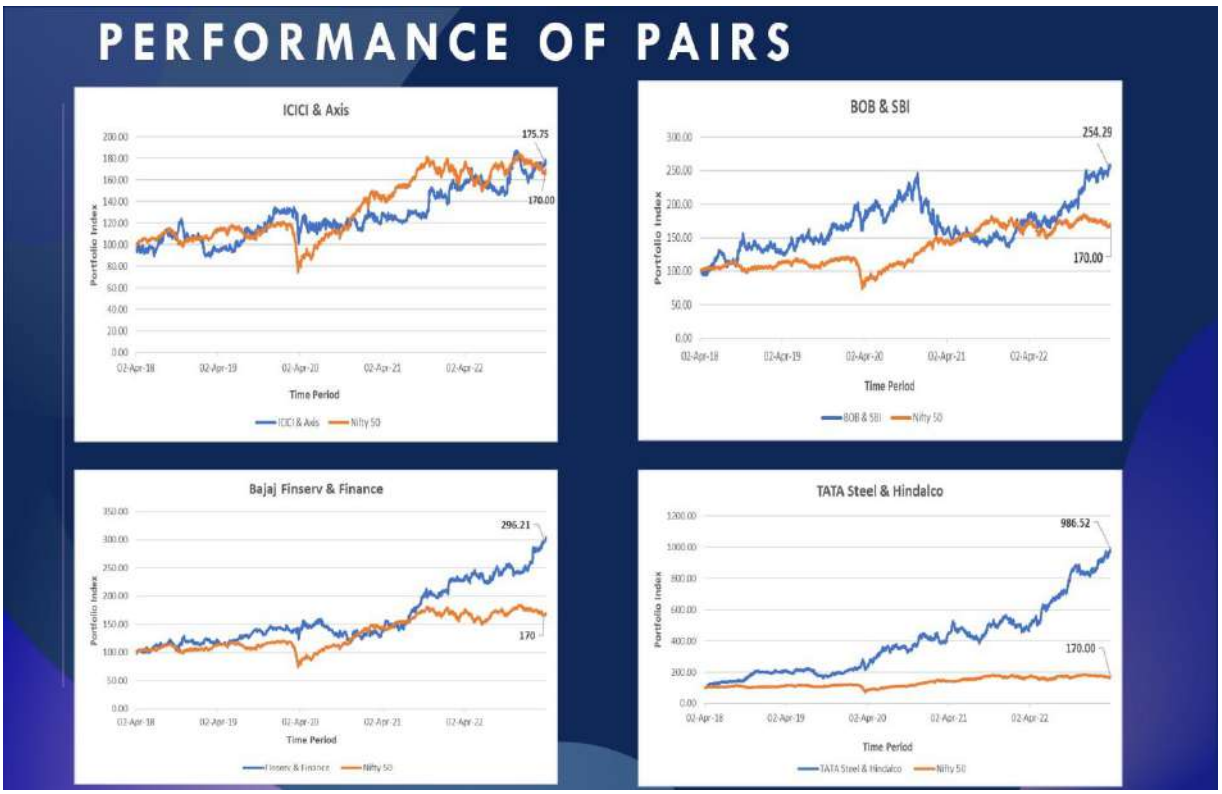
The analysis reveals several pairs with significant cointegration, indicating their suitability for pair trading. Noteworthy pairs include ICICI and Axis, BOB and SBI, TATA Steel and Hindalco, and TCS and Infosys. These pairs demonstrate favorable strategy returns and manageable beta values. Conversely, pairs like PNB and BOB, and Jindal Steel and JSW, were rejected due to a lack of statistical
significance.

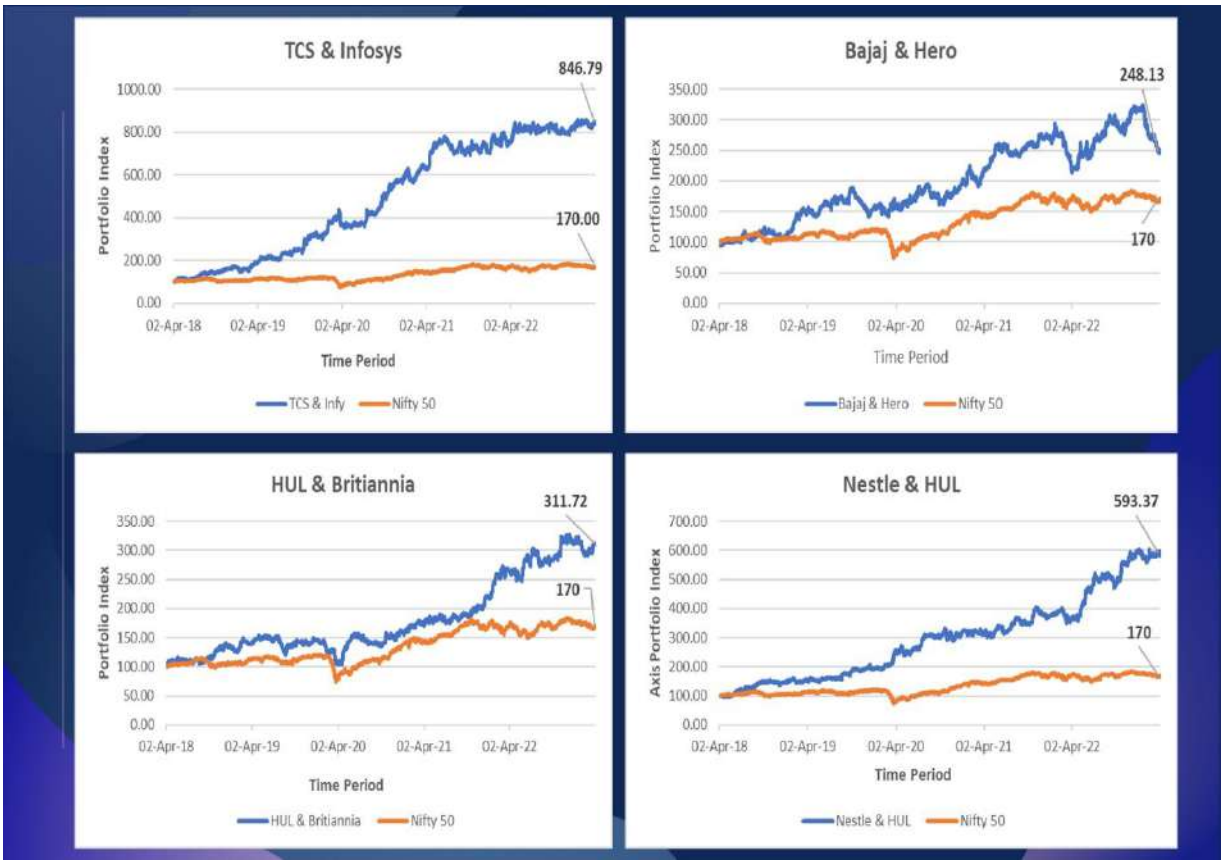




PAIRS	t-stat	t critical (10%)	t critical (5%)	t critical (1%)	Strategy return (CAGR)	Beta
ICICI & Axis	-2.196	-1.616	-1.941	-2.567	12.09%	0.080
BOB & SBI	-1.999	-1.616	-1.941	-2.567	21.00%	0.097
PNB & BOB	-0.095	-1.616	-1.941	-2.567	4.86%	0.183
Bajaj Finance & FinServ	-2.851	-1.616	-1.941	-2.567	24.91%	-0.051
TATA Steel & Hindalco	-3.131	-1.616	-1.941	-2.567	58.06%	0.181
TATA Steel & JSW steel	-2.656	-1.616	-1.941	-2.567	43.95%	0.080
Jindal Steel & JSW steel	-2.143	-1.616	-1.941	-2.567	12.55%	-0.087
Jindal Steel & SAIL	-1.101	-1.616	-1.941	-2.567	-3.33%	-0.137
INF & HCL	-3.806	-1.616	-1.941	-2.567	32.66%	-0.051
TCS & HCL	-5.516	-1.616	-1.941	-2.567	47.56%	-0.025
TCS & Infosys	-5.349	-1.616	-1.941	-2.567	53.35%	0.037
Bajaj & Hero	-2.696	-1.616	-1.941	-2.567	20.11%	0.112
HUL & Britannia	-2.757	-1.616	-1.941	-2.567	25.53%	0.020
Nestle & HUL	-4.603	-1.616	-1.941	-2.567	42.90%	0.033

Portfolio Growth for the accepted pair over the years





Conclusion:

In conclusion, this study contributes valuable insights into pair trading dynamics in the Indian financial market. The accepted pairs offer opportunities for pair trading strategies, while rejected pairs emphasize the importance of rigorous testing for pair stationarity. The findings provide a foundation for further research and refinement of quantitative trading strategies, acknowledging the dynamic nature of financial markets.

As financial markets evolve, the success of pair trading strategies lies in continuous monitoring, adaptability, and a thorough understanding of market conditions. This research invites practitioners to explore the nuanced landscape of pair trading in the Indian market, offering both accepted pairs for potential implementation and rejected pairs for prudent risk management.

USE AND RISK IF FINANCIAL DERIVATIVES ON INDIAN BANKS

-Vamshi Rachakatia

INTRODUCTION

Banks in India are increasingly turning to financial derivatives to manage interest rate and exchange rate risks. Interest rate derivatives, including swaps, futures, and forward rate agreements, are
utilized to mitigate risks associated with unpredictable interest rate shifts. Market makers and users play vital roles in derivative transactions, with market makers shaping the market and users engaging to manage underlying risks.

For interest rate risk, banks employ interest rate swaps, futures, and options to safeguard their interest income margin. In currency risk management, banks use currency futures, options, and swaps to hedge against adverse currency movements. The flexibility and customization of these derivatives, particularly interest rate swaps, allow for tailored risk management solutions. Overall, the trend of using derivatives in Indian banks is expected to continue, driven by the need for effective risk management in the face of volatile market conditions.

RESEARCH QUESTION/HYPOTHESIS

1. Effect of interest rate and exchange rate changes on stock returns of Indian publicly listed banks.
2. Impact of capital size of banks on interest rate beta and exchange rate beta.
3. Use of Exchange rate derivatives and Interest rate derivatives are decreasing Exchange rate Beta and Interest rate beta.

RESEARCH METHODOLOGY

This Research uses the Regression model to determine the relation between the Derivatives usage and Risk beta (i.e., Interest rate beta and Exchange rate beta) of Indian banks. The slope of the stock price returns with interest rate, exchange rate and market returns are considered as the interest rate beta, exchange rate beta and market beta where stock returns are considered as dependent variable and interest rate changes, exchange rate changes and market returns are considered as independent variable.

$$\beta x = Cov(i,x) / var(x) \ldots\ldots 1$$

βx = Risk beta (x = market returns, interest rate changes, Exchange returns change) Cov = Covariance between independent variable(x) and dependent variable(i)

Var = variance between independent variable(x) and dependent variable(i)

The Balance sheet data is also considered in below equations. Regression model is used to compare the effect of derivatives usage and Risk beta (Interest rate, exchange rate) at 95% of significance level. The balance sheet data considered are Total assets, Equity, Net Interest Margin, Dividends, Interest rate derivatives exposure, Exchange rate derivative contract exposure.

$$\beta INT = \alpha i + \Sigma\, £*BSi + ¥i \ldots\ldots 2 \quad \beta FX = \alpha i + \Sigma\, £*BSi + €i \ldots\ldots 3$$

βINT = Interest rate beta coefficient.

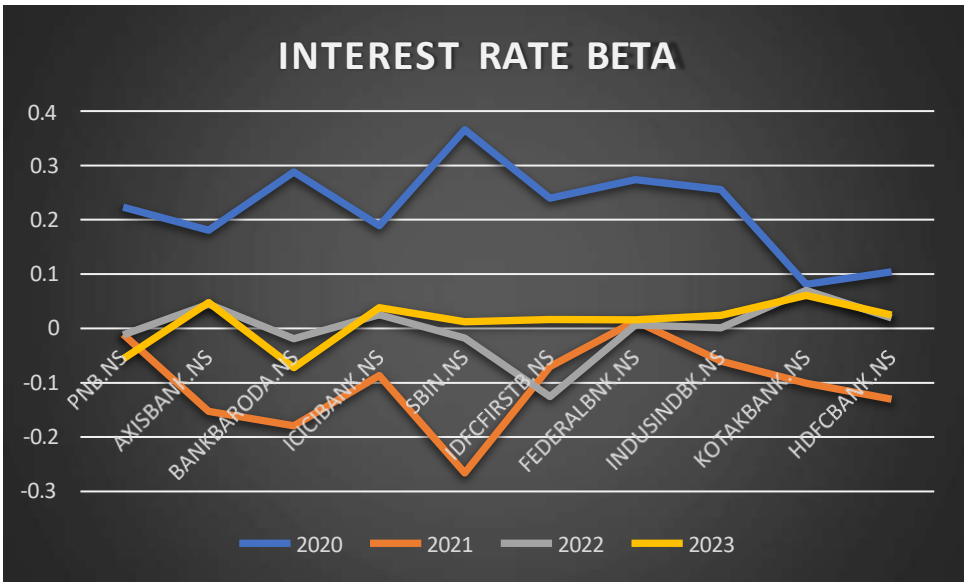
βFX = Exchange rate beta coefficient.

¥i = notional amount of interest rate derivatives contracts

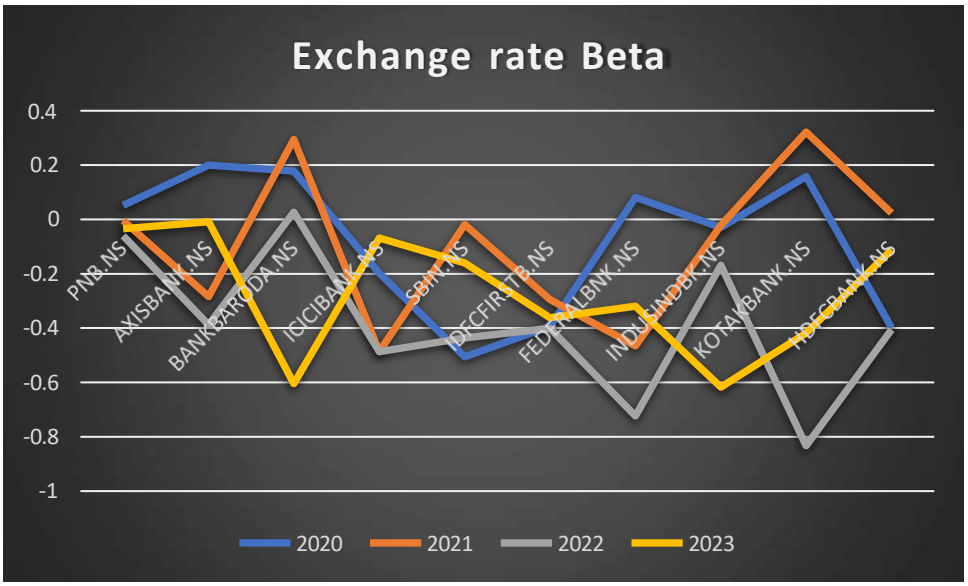
€i = notional amount of currency derivative contracts BSi = Balance sheet ratios as explained above

RESULTS

Estimated beta coefficients of Interest rate, Exchange rate and market with the stock has shown that market has positive beta, Interest rate have positive beta and Exchange rate have negative beta over the period of 2020 and 2023. The Interest rate and exchange rate beta coefficients are less compared to the market beta coefficient. The beta coefficients are more sensitive over the years.



From the above chart we can observe that The beta coefficients of some of the stock returns are very less sensitive over the years. These companies are less exposed to deivatives trading compared to
other companies.



From the above graph we can see that Exchnage rate beta of the Indian banks are highly sesitive over the period of 2020 to 2023. Some stocks like PNB, Federal Bank have less beta coefficient senstivity because these are less exposed to the currency derivatives.

INTEREST RATE COEFFICIENT

In the above data, Interest rate beta coefficient is the dependent variable and Liquidity to asset ratio, capital to asset ratio, NIM, Ln assets, Dividends to asset ratio and notional principal of interest rate derivatives to the asset ratio are the independent variables. The banks that have very less or equal to zero exposure of interest rate derivatives doesn't have any impact on the interest rate beta coefficient. Banks that are exposed to interest rate derivatives have a positive impact on the interest.

INT BETA	PNB.NS	AXISBANK.NS	BANKBARODA.NS	ICICIBANK.NS	SBIN.NS	IDFCFIRSTB.NS	FEDERALBNK.NS	INDUSINDBK.NS	KOTAKBANK.NS	HDFCBANK.NS
Intercept	9.5411	1.890252343	77.55142748	-15.7547556	151.24	-4.050026855	8.863166394	3.18229488	-6.819598877	11.17593171
liquidity to asset	-0.605	5.611141 24	-28.79589329	0	-30.316	3.246825769	13.87259266	8.836844849	2.584601128	6.592487994
capital to asset	-7.529	0	0	-32.1828115	0	0	29.309889980	0	0.211731602	0
NIM	0	0	0	0	0	0	0	0	0	0
lognormal of assets	-0.61	-0.51966719	-3.894531703	1.402746059	-8.5947	0.489540742	0.029304828	-0.841440119	0.352445428	-1.161439968
dividends to assets	0	0	0	0	0	0	0	0	0	0
INT EXPO	0	2.563447926	-10.73867403	-0.112462743	27.14	0.627164171	0	0.484741693	0	1.496804679

rate beta coefficient neglecting the few banks that have less coefficient but negative. In most of the banks lognormal of assets are negatively impacting interest rate coefficients. Banks that are not exposed or less exposed to interest rate derivatives have a negative impact of capital asset ratio and liquidity to asset ratio but banks that are highly exposed to interest rate have positive impact from
the capital to asset and liquidity to asset ratio.

EXCHANGE RATE COEFFICIENT

FX BETA	PNB.NS	AXISBANK.NS	BANKBARODA.NS	ICICIBANK.NS	SBIN.NS	IDFCFIRSTB.NS	FEDERALBNK.NS	INDUSINDBK.NS	KOTAKBANK.NS	HDFCBANK.NS
Intercept	9.5411	64.7923482	61.67119774	-10.58429334	8.9851	0.984370298	13.88608371	27.04779743	59.54334775	-22.64940119
liquidity to asset	-0.605	-6.30923419	-2.308364847	0	-28.381	0	-37.46087815	2.254362867	-14.70486667	-33.35600111
capital to asset	-7.529	0	0	-5.195647111	0	31.73857422	7.865908266	0	0	-1.799149015
NIM	0	0	0	0	0	0	0	0	0	0
lognormal of assets	-0.61	-3.934124336	-4.276239376	0.644566573	0.86	-0.417919314	1.328075258	-2.151809061	-3.789696316	3.392687956
dividends to assets	0	0	0	0	0	0	0	0	0	0
FX EXPO	0	-8.842501866	12.74035593	1.877959712	-8.9357	0.565623514	0	-1.101020447	5.986692263	0

From the above table, Exchange rate beta coefficient is the dependent variable and Liquidity to asset ratio, capital to asset ratio, NIM, Ln assets, Dividends to asset ratio and notional principal of interest rate derivatives to the asset ratio are the independent variables. The banks that have very less or equal to zero exposure of exchange rate derivatives have no impact on the exchange rate beta.

The banks that are exposed to exchange rate derivatives have the huge impact on the exchange rate derivatives. These is a positive relation between the Currency derivatives and exchange rate beta. There is negative relation between exchange rate beta with the liquidity to asset, capital to asset and log normal of assets.

Conclusion

This research has shown that there is a impact of financial derivative use on Indian publicly listed banks. The risk beta obtained from the equation 1 has shown that risk beta of interest rate less sensitive than exchange rate beta. The beta coefficients are higher during the covid and started decreasing after covid. The results from the equation 2 has shown that interest rate derivatives volume has a impact on the risk beta of the company but expose to derivative contracts doesn't decrease the risk actually it increasing the risk of the banks. The results from equation 3 shown that currency derivatives volume has higher impact on the exchange rate beta coefficient of the banks.

They are positively related higher the use of derivatives higher the risk of the banks. The banks that are not exposed to derivative contracts doesn't face higher risk like the banks that exposed to derivative contracts. Thus, Most of the banks use Currency derivatives more than interest rate derivatives to reduce the beta. It also explained that capital size and liquid assets size has a impact on the beta coefficients of the banks.

Here, we can conclude that It is difficult to estimate the risk differently for trading and hedging. Most of the banks that are exposed to derivative contracts are exposed to trading than the hedging that's the reason there is a increase in the risk of the banks.

Retirement Planning: Issues and Concerns in India

-Adil Kathat

Retirement planning is an integral aspect of an individual's financial journey, with far-reaching implications for their post-retirement life. This article will throw light on the complex scenarios of retirement planning in the Indian context, primarily on the issues and concerns faced by individuals as they prepare for their golden years.

The classic issues in retirement planning are related to poor financial literacy, conversion to nuclear families where individuals are increasingly responsible for their own financial security in retirement. Most people start thinking about retirement at around 39 years old on average in India, which is too late. It becomes really stressful because they have to invest a lot in a short time.

Also, accessibility to retirement planners and financial advisors – is in stark contrast if we compare the urban and rural scenarios. We have found out that 60-80% working people in India do not consult any financial advisor. The transformation of family structures, shifting societal norms, and evolving economic landscapes have ushered in an era where the responsibility for securing one's financial future during retirement has increasingly shifted from collective to individual shoulders. Nowhere is this transition more challenging than in the Indian context. The responsibility of saving a sufficient amount of funds for one's old age largely falls on the individuals themselves.

Investment Options available
Choosing investments is one of the most important, yet difficult, decision. When saving for retirement, people often have to choose an investment option from a long list of alternatives, or else they have to rely on a default that might not be the best option.

The procedure for carrying out a retirement plan should be established once one has been created. Following a financial plan is just the first step toward realizing savings. Only when the savings are invested will the retirement goal be benefited.

The risks in the portfolio can be managed by setting up a schedule for periodic assessments and portfolio rebalancing.

Due to a lack of time, many of these crucial tasks are neglected or put off. Many of these tasks can be automated by using services provided by banks and financial planners.

The goal of retirement planning strategies is not always to maximize returns. Retirees are more focused on managing the two main risks associated with retirement: adequate income and longevity, rather than optimizing returns. Retirement strategies will thus focus on meeting these needs.

"How is that people are motivated to go to a doctor but not motivated to go to a financial counselor" if individuals are ultimately responsible for their own financial health. (Bowditch, 2005)

Following are the investment avenues this is not an exhaustive list, these avenues cater to the general notion of long term retirement planning:-

- Employee Provident Fund (EPF)
- Public Provident Fund (PPF)
- National Pension System (NPS)
- Senior Citizens Savings Scheme (SCSS)
- Real Estate
- Systematic Investment Plan (SIP)

Key Issues and concerns found

Annuities

- Stocks and Bonds
- Gold Investments
- Investment linked Insurance Products
- Inflation-Indexed Bonds (IIBs)
- Reits and Invits

- Most working individual do not seek professional help for retirement planning, also do not follow any written plan of action
- Out-of-pocket expenditure (OOPE) remains the primary source of health care financing in India and is a catastrophe for the retirement planning as it erodes a huge chunk in one go.
- Prolonged life expectancy of the overall population, Longevity risk is increasing.
- Increasing shift from joint to nuclear families, hence the responsibility lies on the individual to take care of himself and his family in retirement, therefore better retirement planning needs to be done.
- India will take **only 45 years to move from aging to super-aged,** this will bring immense pressure on the not so developed pension system of India.
- Low awareness and lower ownership of retirement investment avenues is observed in working individuals, as most people do not know about all the available options and if they know they are not investing accordingly.
- Most people look for Part time jobs after retirement to fill the gap left in their needed retirement fund.
- Less time for accumulating of retirement funds, on an average people's retirement planning horizon is approximately **25 years across India**. It is much less as compared to what is needed.
- Legacy/Family related and other concerns

The process of planning for retirement is highly dynamic and influenced by many variables. When making retirement plans, people must consider social, economic, and political aspects in addition to their own needs. Demographic factors do, in fact, have an impact on all aspects of retirement planning.

Recognizing that everyone has a personal responsibility to make retirement plans before it's too late as essential Employer benefits, family support, and social security are unreliable.

An important consideration when it comes to retirement planning is the undeveloped pension sector in India. The National Pension Scheme, a major government initiative, does not appear to be accelerating at the appropriate rate.

So, in the end it comes down to simple choices of appointing financial advisors/planners, which will be much more efficient in preparing the corpus for the golden years.

Optimization of portfolio with Commodities & Equities using Risk Adjusted Returns

-Vidushi Gupta

Introduction

Portfolio optimization involves identifying capital assets and their weights to optimize risk-return pairs, a computationally challenging task, especially when balancing future return and risk values. Mean-variance optimization, proposed by Markowitz, faces difficulties in estimating future expected returns. The mean-risk approach, considering mean and risk simultaneously, aims to choose efficient portfolios. This chapter explores mean-risk portfolio problems for a 15-asset portfolio using risk measures like mean semi-deviation and mean-weighted deviation, with a focus on the National Stock Exchange of India's sectors and commodities. Historical stock data from April 1, 2014, to March 31, 2023, is collected.

Initially, Sharpe ratio optimization was conducted, but the application of the Treynor ratio faced challenges due to the diverse portfolio lacking a suitable benchmark. Despite this, the Sharpe ratio offered valuable insights into risk-adjusted returns. The study is motivated by performance improvement and risk management, seeking a balance between maximizing returns and mitigating market volatility.

Data & Research Methodology

The research design involves selecting one company from each sector, Nifty Auto, Nifty Bank, Nifty FMCG, Nifty IT, Nifty Pharma, Nifty Energy, Nifty Metal, Nifty Oil and Gas, Nifty Consumer Durables, and Nifty Realty. and five commodities for a mean-variance portfolio analysis from April 1, 2014, to March 31, 2023. Steps include computing returns and volatilities, determining covariances and correlations among stocks, and deriving portfolio returns and risks. The portfolio optimization aims to maximize risk-adjusted return, involving the Sharpe ratio and Sortino ratio. The Sharpe ratio compares a portfolio's excess return to total risk, while the Sortino ratio considers only downside risk. The optimum portfolio is the one maximizing the Sharpe Ratio for a set of stocks, contributing to performance evaluation and risk management.

Analysis and Interpretation

Sharpe ratio before and after Optimization

Portfolio	Before Optimization	After Optimization
E(Rp)	0.048%	0.062%
SD(p)	0.847%	0.681%
RF	7.000%	7.000%
Sharpe Ratio	**3.424%**	**6.239%**

The data analysis compares a portfolio before and after optimization, highlighting the impact on risk and return. Initially, the portfolio showed an Expected Return (E(Rp)) of 0.048%, Standard Deviation (SD(p)) of 0.847%, and a Sharpe Ratio of 3.424%, reflecting its risk-adjusted performance. Post-optimization, the Expected Return increased to 0.062%, indicating potential improvement in returns, while the Standard Deviation dropped to 0.681%, suggesting reduced volatility and risk. Most notably, the Sharpe Ratio surged to 6.239%, signifying a substantial enhancement in risk-adjusted performance. Overall, the optimization process appears to have positively influenced the portfolio, offering increased expected returns, decreased volatility, and a significantly improved Sharpe ratio, reflecting a more balanced and efficient investment.

Weights after optimization

Weights	Before Optimization	After Optimization
Maruti	6.67%	10.11%
HDFC Bank	6.67%	0.25%
HUL	6.67%	**21.37%**
INFY	6.67%	0.00%
Sunpharma	6.67%	0.00%
Tatasteel	6.67%	0.00%
Reliance	6.67%	2.74%
Whirlpool	6.67%	**16.56%**
Godrej	6.67%	0.00%
NTPC	6.67%	0.00%
Gold	6.67%	**30.66%**
Silver	6.67%	3.96%
Natural Gas	6.67%	1.49%
Crude Oil	6.67%	0.79%
Copper	6.67%	12.07%
Sum	**100.00%**	**100.00%**

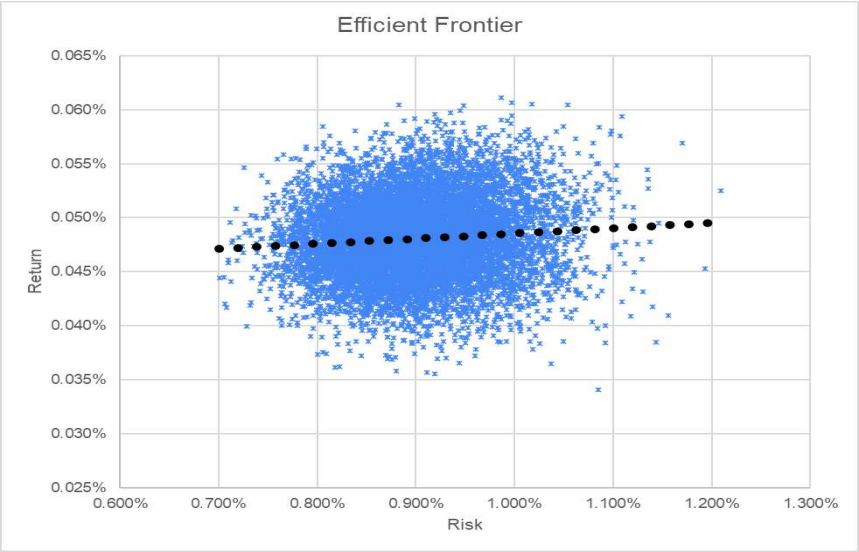
Prior to optimization, an equal weightage strategy allocated each asset a 6.67% share for a balanced investment structure. Post-optimization, notable changes occurred, with Maruti's allocation increasing to 10.11%, indicating heightened attention, while HDFC Bank's share dropped significantly to 0.25%. HUL, Whirlpool, Gold, and Copper experienced substantial increases in weights, with HUL at 21.37%, Gold dominating at 30.66%, and Copper rising to 12.07%. This strategic shift in allocations reflects optimization considerations like volatility, expected returns, and potential correlations between assets. Notably, Gold's increased weight suggests its role as a potential hedge against stock market downturns.

Sortino ratio before and after Optimization

Portfolio	Before Optimization	After Optimization
Average Return	0.048%	0.06%
SD	0.847%	0.68%
RF	7.000%	7.00%
downside risk	0.610%	0.45%
Sortino Ratio	**4.752%**	**9.39%**

Before optimization, the portfolio displayed an Average Return of 0.048% and a Standard Deviation of 0.847%. Post-optimization, Average Return increased to 0.060%, suggesting improved overall returns, while Standard Deviation decreased to 0.680%, indicating lower volatility. Notably, downside risk dropped to 0.450%, showcasing enhanced risk management. The Sortino Ratio significantly rose to 9.39%, highlighting successful optimization in improving risk-adjusted performance, particularly in reducing downside risk.

Efficient Frontier



To construct the efficient frontier, I utilized random variables generated by the randarray function, normalized by their sum. Employing a what-if analysis data table, I generated 10,000 random variables representing risk and return, calculating the Sharpe ratio for each. Plotting the data points revealed a scattered distribution, reflecting the inherent randomness in weight generation. The low correlation coefficient of 0.0836 between risk and return suggests a weak linear relationship, allowing for nuanced exploration of potential risk-return trade-offs in portfolios under different weightings. Despite randomness, this approach provides valuable insights into optimal risk-adjusted returns.

Conclusion

This study analyzes investment opportunities by assessing risk and return in equities and commodities listed on the exchange from April 2014 to March 2023. Portfolio optimization revealed significant gains in risk and return metrics. Before optimization, the portfolio had a Sharpe Ratio of 3.424%, Expected Return (E(Rp)) of 0.048%, and Standard Deviation (SD(p)) of 0.847%. Post-optimization, SD(p) dropped to 0.681%, E(Rp) rose to 0.062%, and the Sharpe Ratio surged to 6.239%, indicating improved risk-adjusted performance. The Sortino Ratio also increased to 9.39%, highlighting effective downside risk management and increased returns.

Strategic changes in asset weights post-optimization included decreased exposure to HDFC Bank (0.25%) and increased attention to Maruti (10.11%). Significant weight increases for HUL, Whirlpool, Gold, and Copper underscored their strategic importance. Correlation and covariance matrices provided insights into asset relationships, with positive correlations like Maruti and HDFC Bank indicating parallel movements and negative correlations with Gold suggesting hedging benefits.

The efficient frontier analysis, while inherently random, offered insights into the risk-return landscape. A weak correlation (0.0836) between risk and return in generated random variables emphasized the complexity of financial markets. In conclusion, the optimization process significantly improved risk-adjusted performance, asset allocation, and overall portfolio resilience, aligning with the goal of achieving optimal risk-return trade-offs.

Evaluation of Nifty 50 Stocks Clustering using K-Means Algorithm based on Return, Risk, Sharpe Ratio and Beta

-Kunal Pharihar

Data Collection:

In this study, I employed an experimental design utilizing the K-Means algorithm for stock clustering, implemented through Python. The primary focus was on Nifty 50 equities, collecting daily closing values from November 1, 2013, to October 31, 2023, via the Bloomberg terminal. This extensive dataset provided a comprehensive overview of the ten-year stock market trends, considering both individual stock prices and the Nifty 50 benchmark index. To gauge investment performance, I
calculated returns, standard deviation, beta, and Sharpe ratio for each stock. Returns were computed using daily closing prices, and annualized returns were derived for a standardized representation.
Standard deviation measured volatility, while beta assessed the sensitivity to market changes. The Sharpe ratio evaluated risk-adjusted performance, crucial for making informed investment decisions.

K-means Clustering:

The K-means clustering algorithm is a widely utilized unsupervised machine learning technique designed for data classification, particularly when the data is unlabeled. It categorizes individual
elements into clusters based on a distance or dissimilarity function, where elements within a cluster exhibit similar properties.
The Elbow Method was employed to determine the optimal number of clusters in the K-means algorithm. This technique involved running the algorithm for a range of K values, calculating the sum of squared distances (SSD) for each K, and identifying the "elbow" point on the resulting curve. This allowed for a balanced trade-off between accuracy and simplicity in clustering, addressing the risk of overfitting or oversimplification. The K-Means technique was then applied for clustering, categorizing stocks based on similarity. Euclidean distance measured dissimilarity, and Lloyd's algorithm refined cluster assignments iteratively. The resulting clusters were analyzed, with each cluster representing stocks sharing common risk and return characteristics.

Optimizing Portfolio:

Optimizing the portfolio involved assigning weights to stocks within clusters while maximizing risk- adjusted performance. Using historical data and the Sharpe ratio, Excel Solver was employed to determine optimal weights, considering constraints such as the sum of weights equalling 1 and optional constraints on individual asset weights.

After Running the K-means Clustering in python the analysis provided valuable insights into the characteristics of each cluster. Data was divided into 7 clusters. For instance, Cluster 0 exhibited consistent risk and return characteristics, while Cluster 1 highlighted ADANIENT with higher returns and volatility. Cluster 2 the beta values for these assets are generally higher, suggesting a higher sensitivity to market movements Cluster 3 contained assets with moderate returns and lower volatility, suitable for more conservative investors. Cluster 4 Asexhibit high returns with moderate risk levels. Assets in cluster 5 exhibit a mix of performance levels, with some assets delivering relatively lower returns, varying levels of risk, and sensitivity to market movements. Assets in cluster 6 exhibit high returns with a moderate level of risk.

	Symbol	Returns	Standard Deviation	Beta	Sharpe Ratio	clusterid
9	BPCL	0.172025	0.335472	1.04	0.304124	0
16	GRASIM	0.192071	0.285541	1.09	0.427506	0
18	HDFCBANK	0.180777	0.220313	1.01	0.502818	0
19	HDFCLIFE	0.187745	0.314472	0.95	0.374423	0
28	KOTAKBANK	0.200979	0.260735	1.03	0.502347	0
29	LT	0.197539	0.265474	1.12	0.480420	0
31	M&M	0.166557	0.291960	1.05	0.330720	0
32	MARUTI	0.240900	0.275486	1.04	0.620359	0
37	RELIANCE	0.224954	0.271412	1.10	0.570917	0
41	TATACONSUM	0.229557	0.300838	0.99	0.530377	0
47	ULTRACEMCO	0.193395	0.267848	1.03	0.460692	0

	Symbol	Returns	Standard Deviation	Beta	Sharpe Ratio	clusterid
0	ADANIENT	0.761872	0.511092	1.48	1.353713	1

	Symbol	Returns	Standard Deviation	Beta	Sharpe Ratio	clusterid
1	ADANIPORTS	0.262208	0.371120	1.25	0.517913	2
4	AXISBANK	0.209719	0.332267	1.39	0.420503	2

	Symbol	Returns	Standard Deviation	Beta	Sharpe Ratio	clusterid
3	ASIANPAINT	0.218002	0.249877	0.77	0.592301	3
11	CIPLA	0.144638	0.258349	0.54	0.288904	3
17	HCLTECH	0.201545	0.265397	0.70	0.495653	3
22	HINDUNILVR	0.173911	0.221105	0.59	0.469965	3
25	INFY	0.162570	0.260375	0.78	0.355526	3
33	NESTLEIND	0.179380	0.228729	0.50	0.478209	3
36	POWERGRID	0.165866	0.237653	0.60	0.403388	3
44	TCS	0.150443	0.233972	0.65	0.343815	3

	Symbol	Returns	Standard Deviation	Beta	Sharpe Ratio	clusterid
2	APOLLOHOSP	0.237590	0.319529	0.73	0.524490	4
10	BRITANNIA	0.279875	0.248792	0.64	0.843576	4
13	DIVISLAB	0.263726	0.308173	0.64	0.628626	4
15	EICHERMOT	0.291001	0.317834	0.97	0.695337	4
30	LTIM	0.368552	0.327461	0.76	0.911716	4
46	TITAN	0.331678	0.301104	0.89	0.869062	4

	Symbol	Returns	Standard Deviation	Beta	Sharpe Ratio	clusterid
5	BAJAJ-AUTO	0.125630	0.244406	0.79	0.227612	5
8	BHARTIARTL	0.152523	0.294875	0.80	0.279856	5
12	COALINDIA	0.052064	0.295479	0.76	-0.060700	5
14	DRREDDY	0.115861	0.264597	0.49	0.173323	5
20	HEROMOTOCO	0.076129	0.270997	0.90	0.022615	5
26	ITC	0.099988	0.248381	0.73	0.120735	5
34	NTPC	0.102215	0.259730	0.73	0.124034	5
35	ONGC	0.053176	0.332092	0.98	-0.050662	5
38	SBILIFE	0.155822	0.276546	0.77	0.310337	5
40	SUNPHARMA	0.103452	0.290881	0.67	0.115001	5
45	TECHM	0.156422	0.287506	0.79	0.300592	5
49	WIPRO	0.106680	0.244288	0.67	0.150150	5

	Symbol	Returns	Standard Deviation	Beta	Sharpe Ratio	clusterid
6	BAJAJFINSV	0.435370	0.329107	1.21	1.110187	6
7	BAJFINANCE	0.570981	0.359109	1.31	1.395067	6

In the final step, the portfolio optimization process was refined by selecting the best-performing stocks from each cluster. This increased the number of stocks in the portfolio, enhancing diversification benefits and mitigating concentration risk. The final weights were obtained through Solver optimization, producing a well-balanced and diversified portfolio.

	Weights	
Symbol	Before Clustering	After KM clustering
ADANIENT	16.03%	14.69%
BAJAJFINSV	2.02%	0.25%
BAJFINANCE	24.89%	23.54%
BHARTIARTL	0.00%	0.25%
BRITANNIA	18.77%	15.26%
DIVISLAB	8.37%	5.25%
DRREDDY	0.00%	4.75%
HCLTECH	3.77%	3.89%
HDFCBANK	0.00%	0.08%
JSWSTEEL	0.00%	5.00%

LTIM	13.23%	11.03%
MARUTI	0.00%	1.02%
NESTLEIND	0.00%	0.69%
POWERGRID	0.64%	0.42%
RELIANCE	0.00%	3.91%
TITAN	12.28%	9.98%
Invested Stocks	9	16
Sharpe Ratio	0.09	0.09

Comparing the pre-clustering and post-clustering portfolio compositions revealed an expansion from 9 to 16 stocks, maintaining a nearly equivalent Sharpe ratio. This illustrated the effectiveness of clustering in enhancing diversification without compromising risk-adjusted returns.

The conclusion emphasized the uniqueness of the study in examining financial indicators within each cluster comprehensively. Returns, standard deviation, beta, and Sharpe ratio were carefully analyzed to provide investors with valuable information for making well-informed decisions aligned with their financial objectives and risk tolerance. The K-means algorithm's data-driven approach, coupled with the ability to customize portfolio weights, was hailed as a significant step towards personalized and optimal investment strategies in the dynamic world of financial markets.

Pre and post-budget overall policy and tax policy implications on the different industry indices-An Empirical Analysis

-Kriti Agrawal

The heartbeat of financial markets quickens with anticipation each year as governments unveil their fiscal and tax policies in the annual budget announcement. These policies, woven into the fabric of economic governance, hold the potential to shape the destiny of industries, influence investor confidence, and carve the trajectory of stock indices. This empirical analysis delves into the intricate dance between pre and post-budget fiscal and tax policies, scrutinizing their implications on different stocks and indices with a dual objective: to understand the degree of volatility and to unravel the multifaceted impacts on industry and stock performances. Fiscal and tax policies wield immense power in sculpting economic landscapes. The financial markets respond quickly as governments calibrate tax rates, allocate resources, and chart their fiscal course. This empirical analysis seeks to untangle the web of cause and effect, shedding light on the degree of volatility experienced by sectoral indices.

Degree of volatility in sectoral indices before and after the budget due to overall policy announcement

In financial markets, few events command as much attention and speculation as the announcement of the annual budget. Governments worldwide utilize this momentous occasion to
articulate their economic vision, allocate resources, and unveil policy measures that can significantly influence market dynamics.

	RANKING
1	Nifty IT
2	Nifty Commodity
3	Nifty FMCG
4	Nifty Pharma
5	Nifty Auto

Most volatile

Least volatile

In 2023

Volatility table

INDICES	BEFORE 2M	1 FEB 2023	AFTER 2M
NIFTY IT	0.97%	1.49%	0.88%
NIFTY COMMODITY	0.78%	1.51%	0.59%
NIFTY FMCG	0.59%	0.42%	0.56%
NIFTY PHARMA	0.58%	0.68%	0.46%
NIFTY AUTO	0.40%	0.50%	0.20%

Reasons for the volatility

The volatility in the sectoral index after the budget can be attributed to a combination of factors, including:

Uncertainty surrounding the budget: The budget is a major event that can have a significant impact on the IT sector, so investors tend to be cautious in the lead-up to the event. This can

lead to increased volatility as investors adjust their positions based on their expectations of the budget announcement.

Reaction to budget provisions: The actual provisions of the budget can also lead to volatility, as investors assess the impact of these provisions on the IT sector. For example, if the budget includes provisions that are favorable to the IT sector, such as tax breaks or incentives, then the NIFTY IT index could rise. However, if the budget includes provisions that are unfavorable to the IT sector, such as increased taxation, then the NIFTY IT index could fall.

Global economic factors: The IT sector is also sensitive to global economic factors, such as interest rates and economic growth. If global economic conditions are deteriorating, then this could weigh on the NIFTY IT index.

Sector-specific factors: In addition to the factors mentioned above, the NIFTY IT index can also be volatile due to sector-specific factors, such as competition, regulatory changes, and technological innovation.

In general, the volatility in the NIFTY IT index after the budget is a reflection of the uncertainty surrounding the budget and the potential impact of the
budget on the IT sector.

In 2022

	2 month before	1-Feb	After 2 month
NIFTY IT	0.92%	1.43%	1.31%
NIFTY COMMODITY	1.01%	1.09%	1.12%
NIFTY FMCG	0.72%	0.84%	0.92%
NIFTY PHARMA	0.76%	0.52%	0.96%
NIFTY AUTO	0.56%	0.45%	0.58%

In 2021

	2 month before	1-Feb	After 2 month
NIFTY IT	0.98%	2.63%	0.85%
NIFTY COMMODITY	0.89%	3.81%	1.18%
NIFTY FMCG	0.70%	2.28%	0.77%
NIFTY PHARMA	0.98%	0.90%	1.00%
NIFTY AUTO	0.60%	0.77%	0.86%

In 2020

	2 month before	1-Feb	After 2 month
NIFTY IT	0.59%	1.40%	2.57%
NIFTY COMMODITY	0.75%	0.73%	2.74%
NIFTY FMCG	0.47%	0.96%	2.24%
NIFTY PHARMA	0.60%	0.24%	2.24%
NIFTY AUTO	0.56%	0.44%	0.12%

Analysis

The market appears to have been more volatile in the months surrounding February 1, 2023. Investors seeking stability may want to consider indices with lower volatilities, such as NIFTY PHARMA and NIFTY AUTO. Investors comfortable with higher risk may find opportunities in indices with higher volatilities, such as NIFTY IT and NIFTY COMMODITY.

Specific Index Observations:

NIFTY COMMODITY: High volatility, particularly in the post-2-month period. This suggests the potential for future price fluctuations.

1. **NIFTY IT**: High volatility, particularly on February 1, 2023. This suggests potential short-term instability.
2. **NIFTY FMCG**: Moderate volatility, implying stable demand for consumer goods.
3. **NIFTY PHARMA**: Moderate volatility, but it varies significantly across the three periods. This suggests the potential for unexpected price movements.
4. **NIFTY AUTO**: Low volatility, suggesting stable prices.

Impact of Tax Policy on Industry and Stock Performance

In the intricate dance between economic policy and market forces, tax policy stands as linchpin, exerting a profound influence on the financial landscape. Governments worldwide deploy tax policies strategically to shape economic behavior, incentivize investment, and foster sustainable growth.

NIFTY FMCG

	Pre 2 month	1-Feb	Post 2 month
2023	0.59%	0.42%	0.56%
2022	0.72%	0.84%	0.92%
2021	0.70%	2.28%	0.77%
2020	0.47%	0.96%	2.24%

These policy reforms are expected to have a positive impact on the consumer durables sector in India. They are expected to increase demand for consumer durables, encourage domestic manufacturing, and create more jobs in the sector. The reforms are also expected to help India become a global leader in the consumer durables sector.

- Number of basic customs duty rates on goods, other than textiles and agriculture, reduced to 13 from 21.
- Minor changes in the basic custom duties, cesses and surcharges on some items including toys, bicycles, automobiles and naphtha.
- Customs duty on camera lens and its inputs/parts for use in manufacture of camera module of cellular mobile phone reduced to zero and concessional duty on lithium-ion cells for batteries extended for another year.
- Basic customs duty on heat coil for manufacture of electric kitchen chimneys reduced to 15 per cent from 20 per cent.

Key observations:

- Overall volatility: The volatility of the NIFTY FMCG index has been relatively low in recent years, with an average annualized volatility of around 0.65% over the past four years.
- Month-to-month variation: The volatility of the index has been fairly consistent across different months of the year, with only minor fluctuations.
- Year-to-year variation: There have been some year-to-year differences in volatility, with 2021 experiencing the highest volatility and 2020 experiencing the lowest.

Enhancing Investors' Safety

The global financial landscape is inherently dynamic, subject to a multitude of factors that can significantly impact market stability and investor confidence. One such critical juncture that often triggers heightened market volatility is the announcement of national budgets. Governments worldwide use budgetary tools to articulate economic policies, allocate resources, and respond to emerging challenges.

While the specific measures for enhancing investors' safety during budget announcement volatility can vary by country due to differences in regulatory frameworks and economic conditions, there are some general strategies that countries like Vietnam, China, the USA, and the UK may consider. Here are measures tailored to each country:

Market stabilization fund: China, Vietnam, and the UK have dedicated market stabilization funds to intervene and purchase shares during periods of excessive volatility. India has similar powers under SEBI but lacks a dedicated fund.

Short selling restrictions: China and Vietnam are more prone to imposing temporary bans on short selling to curb volatility. India rarely implements such restrictions. Position limits for equity:

- USA and UK impose stricter position limits on certain equity to prevent excessive speculation and manipulation. India's position limits are less stringent

- Enhanced transparency: USA and UK have a more transparent and predictable policy-making process, which reduces uncertainty and volatility compared to China and Vietnam.

- Stronger enforcement: USA and UK have a proven track record of effectively enforcing regulations and punishing violators. While India has enforcement mechanisms, their effectiveness can be debated. as compared to overall policy announcements. The key findings of the study are as follows:

Among the sectoral indices, NIFTY IT and NIFTY COMMODITY are the most volatile during pre and post budget announcements. This is likely due to the sensitivity of the IT sector and agriculture sector to changes in overall government policy and economic conditions. NIFTY FMCG is also significantly impacted by pre and post budget announcements. This is likely due to the sector's reliance on consumer spending, which can be affected by changes in tax rates and other fiscal policies. The volatility observed in the NIFTY IT and NIFTY FMCG indices can be attributed to two main factors:

- Uncertainty about the government's fiscal policy plans: Investors often react t uncertainty by selling stocks, leading to increased volatility.

- Speculation about the impact of the budget on the economy: Investors may make speculative trades based on their expectations about how the budget will affect their businesses or the overall economy.

India's regulatory framework is generally comparable to other countries and effectively manages market volatility. However, implementing dedicated market stabilization funds, stricter position limits for derivatives, and improving transparency in policy-making could further enhance stability and investor confidence. Additionally, strengthening enforcement mechanisms and fostering a more proactive approach to regulating vulnerable sectors could further reduce market risks so that small investors can take informed decisions during high volatility in the market. In conclusion, this dissertation has made a significant contribution to our understanding of the impact of fiscal policy on the financial markets, particularly the impact on sectoral indices and stocks. The findings of the study have important implications for investors, who can use the information to make more informed decisions about their investments and protect themselves from potential losses.

Construction of Indian Financial Stress Index and its relationship with the equity market Index

-SAMBIT ROY

The Financial Stress Index (FSI) is a widely used tool that measures the level of financial stress in a country's financial system. The stock market is an important indicator of the overall health of an economy, and its performance is influenced by a variety of factors. This paper aims to compute the Indian Financial Stress Index (INDFSI) and examines the relationship between the INDFSI and the stock market, exploring the ways in which changes in the FSI can impact stock market performance. Our findings suggest that there is a significant negative correlation between the FSI and the stock market, indicating that as the level of financial stress increases, stock market performance tends to decrease. This relationship is influenced by a variety of factors, including economic conditions, investor sentiment, and policy interventions.

Introduction:

The Financial Stress Index (FSI) is a commonly used tool that measures the level of stress in a country's financial system. It is calculated based on a variety of factors, including interest rate
spreads, stock market volatility, and credit spreads. The FSI is used by policymakers, investors, and financial institutions to evaluate the risks and opportunities associated with investing in a particular country. The stock market is an important indicator of the overall health of an economy, and its performance is influenced by a variety of factors, including economic conditions, investor sentiment, and policy interventions.

Specifically, we seek to answer the following research questions:

1. Computation of India FSI.
2. What is the relationship between the FSI and the Indian stock market?
3. What are the factors that influence this relationship?
4. What are the factors that influence this relationship?

Several studies have also examined the factors that influence the relationship between the FSI and the stock market. Economic conditions, such as inflation, GDP growth, and unemployment, have been found to have a significant impact on this relationship (Cihak and Demirguc-Kunt, 2010;
Berument et al., 2012). Other factors, such as investor sentiment and policy interventions, have also been found to influence the relationship between the FSI and the stock market (Valickova et al., 2015; Claessens et al., 2011).

Methodology:

India FSI has been calculated via the following 5 components -
FSIIndia = βBank Nifty +Stockreturns + Stockvolatility + Debtspreads + EMPI

are aggregated using correlation weights and principal component analysis.

Monthly Data of the following has been taken and are added using their correlation weights, higher the correlation between the component and the equity market higher the weight assigned to it.

1. **Banking Sector (*β*)**

   βBank Nifty = cov(r,m) / var(m)

   Where r and m are the returns to the banking sector stock price index (*BANK NIFTY*) and the overall stock price index, respectively. A higher value indicates a higher stress level in the banking sector.

2. **Equity Market Returns (*Stockreturns*)**

   γt = ln(γt) − ln(γt-1)

   Where γt is the equity return in the current period, and γ(t-1) is the equity return in the previous period. A lower value indicates a higher stress level in the equity market.

3. **Equity Market Volatility (*Stockvolatility*)**

   India VIX is a measure of volatility used to gauge the market's anticipation of volatility in the Indian stock market over the next 30 days. Also known as the "Fear Index," VIX is derived from the NIFTY 50 Index options prices and calculated by the National Stock Exchange (NSE) using the Black-Scholes model. We have taken the log of the India VIX monthly data.

4. **Sovereign debt spreads (*Debtspreads*)**

   Sovereign debt spreads are used to measure sovereign debt stress. Data refer to yield differentials between long-term (10-year) local government bonds and short- term (2-year) T-Bills with available data. A wider spread indicates a higher stress level in the debt market.

5. **Exchange Market Pressure Index (*EMPI*)**

   EMPIi,t = (Δei,t − μi,Δe)/σi,Δe − (ΔRESi,t − μi,ΔRES)/σi,ΔRES

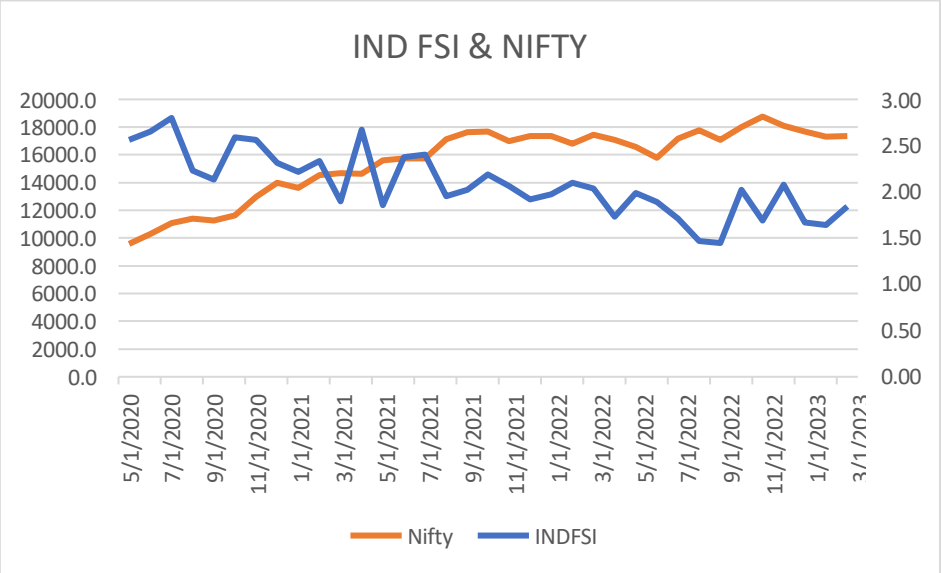
   The EMPI captures the depreciation of INR with respect to the United States (US) dollar and the reduction in foreign exchange reserves. A higher value indicates a higher stress level in the foreign exchange market.

Δe and ΔRES denote month-on-month percent changes in the foreign exchange rate of the INR per US dollar, and foreign exchange reserves, respectively; while σ and μ are the standard deviation and the mean, respectively.

Regression analysis is done on the INDFSI and NIFTY50 Index to gain insights into the relationships between variables and to make predictions about future outcomes.

Results:

Our analysis found a significant negative correlation between the FSI and the stock market, indicating that as the level of financial stress increases, stock market performance tends to decrease. The correlation coefficient was 0.73, which suggests a moderate to strong positive correlation.



Our regression analysis found that there is a significant effect of the Financial stress Index on the market as a whole. Such an index might be used by analysts and policy makers to better understand and predict the relationship between various economic indicators and the Indian equity market.

Different Portfolio Strategies: Comparative Study on Indian Stocks

-Imran Ali Ahmed

Introduction

Portfolio management is a dynamic and strategic discipline that involves the art and science of making investment decisions to achieve specific financial objectives. In the financial landscape, a portfolio refers to a diversified collection of assets, such as stocks, bonds, and other financial instruments, carefully selected and combined to optimize returns while managing risk. The primary goal of portfolio management is to construct and manage a well-balanced investment portfolio that aligns with an investor's financial goals, risk tolerance, and time horizon. It encompasses a range of activities, from asset allocation and security selection to ongoing monitoring and adjustment based on market conditions and changes in an investor's circumstances. Effective portfolio management requires a deep understanding of financial markets, economic trends, and individual securities. It involves strategic decision-making to allocate assets among different classes and investment styles, aiming to maximize returns for a given level of risk or achieve a specific level of risk for a targeted return. Investors, whether individuals, institutions, or fund managers, rely on portfolio management principles to optimize the risk-return trade off and adapt their investment strategies to evolving market conditions. By diversifying across various asset classes and geographic regions, portfolio management seeks to minimize the impact of adverse events on the overall portfolio performance. This field has evolved with advancements in financial theory, technology, and the increasing complexity of global markets. Modern portfolio management incorporates quantitative models, risk management strategies, and a holistic approach to asset allocation. In essence, portfolio management is a strategic framework that empowers investors to navigate the complexities of the financial markets, pursue their financial goals, and adapt to changing circumstances while effectively managing risk. Whether for individual investors building retirement savings or institutional fund managers overseeing large investment portfolios, the principles of portfolio management serve as a crucial guide to achieving financial success in a dynamic and ever-changing investment landscape.

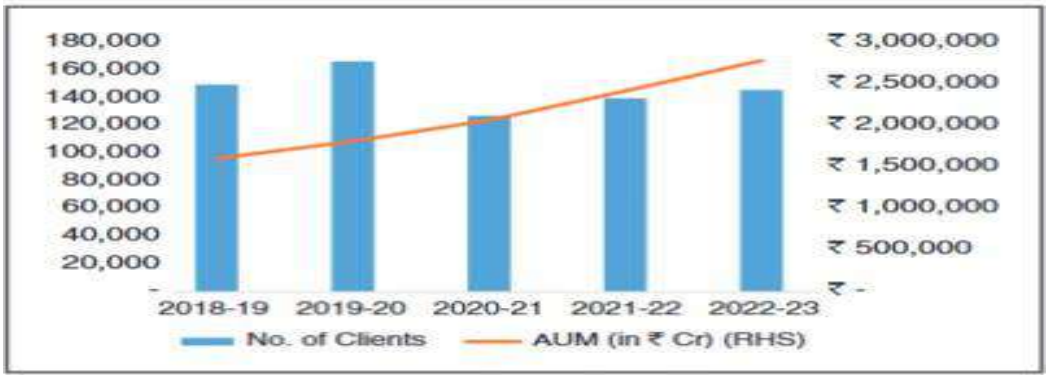
Overview of Indian Portfolio Management Services.

Portfolio managers cater the needs of high net worth individuals who seek customized and well diversified investment portfolios. An account of the market activity and trends observed during 2022-23, the total number of registered portfolio managers increased by 9.0 per cent from 367 in 2021-22 to 401 in 2022-23. The total number of clients with portfolio managers increased by 4.3 per cent from 1,39,949 in 2021-22 to 1,45,918 in 2022-23. Number of clients registered under discretionary category increased by 6.0 percent, while under non-

discretionary category, number of clients witnessed a decline of 25.8 per cent during the same period.

The total AUM of the portfolio management industry increased by 15.2 per cent from ` 24.2 lakh crore at end of 2021-22 to ` 27.9 lakh crore at the end of 2022-23. AUM under non-discretionary category and discretionary (EPFO/ PFs) category increased by 31.1 per cent and 16.3 per cent respectively by at end of 2022- 23. Pursuant to notification dated November 9, 2021 to facilitate co-investment, filing of data relating to co-investment started from 2022-23.

Chart 5.6: Trends in AUM and Clients in PMS



Source: SEBI ANNUAL REPORT 2022-23

During 2022-23, gross inflow of ` 3,70,364 crore was recorded under discretionary portfolio management category, while, gross inflow of ` 1,07,338 crore was witnessed under non-discretionary portfolio management category Net inflow during 2022-23, for discretionary and non-discretionary category stood at ` 2,90,954 crore and ` 53,193 crore, respectively.

Research Methodology And Results.

This paper includes 8 different portfolios of different strategies pointed out by different Portfolio Managers. For the purpose of limitation of the stock selection and benchmarking of the portfolios, current Nifty 100 stocks were taken as the population and 10 years historical close price data of the selected stocks were collected from the BSE (Bombay Stock Exchange) website.

10 stocks Equal Weighted Portfolios were constructed using the Net Asset Value (NAV) approach of portfolio construction and Average Returns, Standard Deviation and Sharpe Rati will be calculated to analyse the performance of the portfolios.

Why Sharpe Ratio?

The Sharpe Ratio is a measure of risk-adjusted return and is named after its creator, William F. Sharpe. It helps investors evaluate the return of an investment relative to its risk. The ratio is particularly useful when comparing the performance of different investment portfolios or strategies.

Portfolio 1

Factor Investing has emerged as a prominent topic in contemporary investment discussions.

This article delves into the reasoning behind factor investing and explores methods for assembling portfolios that mirror factor returns in a transparent and cost-efficient manner.

Factor investing/Smart Beta portfolios originated from academic research revealing a consistent set of underlying factors responsible for explaining both average returns and systemic risks in stocks. Professors Eugene Fama and Kenneth French have been pivotal in crafting these factor models elucidating stock returns. As the culmination of their extensive research spanning decades, Fama and French presented a model in 2013 that demonstrated a systematic connection between stocks' average returns and five fundamental factors.

Currently five factors/Smart Beta are identified as risk premia factors: Value, Low Size, Quality, High Beta and Momentum.

Value Factor Porfolio: The value factor pertains to the relationship between a company's book value (its assets minus liabilities as recorded on the balance sheet) and its market capitalization, known as the book-to-market (B/M) ratio. Fama and French propose that the positive correlation between average returns and B/M ratios exists because stocks with higher B/M ratios are typically less profitable and exhibit signs of financial distress. Consequently, these companies are considered riskier, leading to higher average returns as compensation for that increased risk.

Low Size Portfolio: Fama and French identified a noteworthy inverse correlation between a firm's size and its average return. Specifically, they observed that companies with smaller market capitalization consistently yield higher average returns over time compared to those with larger market capitalization.

Quality Factor Portfolio: The ratio of firm's operating profit to its book value (EBITDA/BV). The argument is that firms with productive assets should have higher returns than firm with unproductive assets.

High Beta Portfolio: Fama and French back tested lower beta stocks with higher beta stocks and concluded that higher beta stocks gave better return compared to low beta stocks. CAPM also suggests that stocks which are more volatile must give higher return to bare the high risk.

Momentum Portfolio: The momentum effect documents that stocks have large price appreciation in one year continue to have high price appreciation the following year and stocks with negative or low price appreciation to do so the following year.

Portfolio 2:

Based on the theory coined by Mr. Kirby an asset managers, "Coffee Can Investing", Saurabh Mukherjee an Indian Portfolio Manager In Ambit Capital in the year 2018 replicated the theory in the Indian Equity Market. Mr. Mukherjee used the filters a. The stock must have a 10 years average YoY revenue growth of 10%, (b) ROE of financial stocks should be 15% and ROCE of other stocks must be 15%.

He set the minimum at 15% because he believed this return is essential to surpass the cost of capital. To determine this, we consider the risk-free rate in India, which stands at 8%. This rate is combined with the equity risk premium, ranging between 6.5% to 7%. The equity risk premium comprises the long-term US equity risk premium of 4%, augmented by an additional 2.5% to accommodate India's credit rating, currently assessed at BBB according to S&P.

Portfolio 3:

Piotroski Score: The Piotroski Score is a financial scoring system developed by Joseph Piotroski, an accounting professor. It is designed to evaluate the financial strength of a company based on its annual financial statements. The score ranges from 0 to 9, with a higher score indicating better financial health. The Piotroski Score is commonly used by investors and analysts as a tool for stock selection. The Piotroski Score is calculated based on nine criteria, each of which represents a specific aspect of a company's financial condition.

Portfolio 4:

Peter Lynch is a legendary investor and former fund manager who achieved considerable success during his tenure at Fidelity Investments. He was born on January 19, 1944, and is widely known for his investment philosophy and strategies.

Invest in What You Know: Lynch often advocated for individual investors to invest in companies whose products or services they understood well. He believed that a basic understanding of the business could give investors an edge. Long-Term Investing: Lynch was a proponent of long-term investing and discouraged frequent trading. He believed that successful investing required patience and the ability to ride out short-term market fluctuations. P/E Ratio: Lynch often used the Price-to-Earnings (P/E) ratio as a valuation metric. He preferred stocks with lower P/E ratios, indicating that the stock was relatively inexpensive compared to its earnings.

The Rule of 20: Its states that market's acceptable P/E ratio equals 20 minus the inflation rate. The market is undervalued if the current P/E ratio exceeds the acceptable P/E ratio. If it is higher, the market is said to be overvalued.

Results:

Portfolio	Average Return	Standard Dv	Sharpe Ratio
Low Size	22.79%	26.09%	0.60523076
Value	19.65%	21.35%	0.592744
Quality	15.44%	15.81%	0.534056
Beta	21.72%	37.40%	0.39355385
Momentum	20.49%	23.56%	0.57255028
Coffee can	19.24%	20.94%	0.58461754
Piotroski	13.30%	17.62%	0.35746156
Peter Lynch	13.08%	27.27%	0.2229359

Low Size portfolio has the highest Sharpe ration indicating most optimal portfolio to invest in and Peter Lynch portfolio generated the lowest Sharpe ratio. Nifty 100 from the inception gave price return of 15.45% thus, Piotroski and Peter Lynch under performed with 13.30% and

13.08% Average Return, however Piotroski Portfolio showed less Std. Deviation making it a low risk portfolio. Quality portfolio though generating return at par with Nifty 100 index but it is relatively more stable compared to indices standard Deviation of 21% thus making it a attractable portfolio. High Beta portfolio as the same suggest shows highest Standard Deviation of 37.40%.

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Navigating the Waves: Exploring Cyclical Trends in the Indian Stock Market with a Focus on Lok Sabha Elections and IPO Launches

-Mohnish Naveen

The stock market, which is often referred to as the "heartbeat" of a country's economy, pulsates with a rhythm that reflects the numerous forces shaping the field of finance. Understanding these fluctuations in the context of the Indian stock market requires a careful review of cyclical trends, those recurring patterns that influence investor sentiment, market dynamics, and, ultimately, the trajectory of the country's economic growth.

Elections are more than just political events in the world's largest democracy; they are seismic forces that reverberate across sectors, leaving an indelible mark on the economic tapestry. Political developments and stock market performance are linked by a complex interaction of anticipation, perception, and reaction.

In the run-up to elections, the Indian stock market has historically followed a predictable pattern. When political campaigns gain momentum and electoral energy peaks, the market frequently experiences increased volatility. Investors, both institutional and individual, face uncertainty as they attempt to forecast the incoming government's policy direction and its potential impact on various industries.

Economic reforms, fiscal stimulus, and regulatory changes can all cause sector- specific rallies or corrections, altering the market's cyclical tendencies.

Aside from macroeconomic issues, investor psychology has a significant impact on market patterns throughout election cycles. The psychological impact of political uncertainty, combined with the herd mentality that typically characterises investor behaviour, contributes to the stock market's cyclical patterns.

Initial Public Offerings (IPOs) emerge as a crucial driver of market enthusiasm in the dynamic landscape of the Indian stock market, particularly during moments of economic upturn. The symbiotic nature of new market entrants and the overall health of the economy is demonstrated by the association between IPO debuts and market booms.

The appetite for new investment opportunities increases during periods of economic boom, which are characterised by solid GDP growth, rising consumer spending, and favourable business conditions. This increased investor optimism generates a favourable climate for companies seeking to obtain funds through initial public offerings (IPOs). Market booms, fuelled by factors such as low interest rates and favourable economic data, increase demand for new equities, paving the way for a rush of IPOs.

Overview of elections in 2004, 2009, 2014 & 2019

An unexpected setback for the ruling Bharatiya Janata Party (BJP)-led National Democratic Alliance (NDA) in the 2004 Lok Sabha Elections resulted in the creation of the Congress-led United Progressive Alliance (UPA). This unexpected shock resulted in a decline in the market. The Nifty 50 index saw a decline of 12.26% right after the day of the result. When the ruling party changes it brings a lot of uncertainty to the laws and regulations it will come with. Moreover this result was not expected by the market participants and so the market had not absorbed the expectations before hand which led to the crash.

Another important chapter in India's political history was opened by the 2009

Lok Sabha Elections. With a clear mandate, the Indian National Congress, led by Sonia Gandhi, triumphed. This result brought in stability and a sense of security in the investors The result was anticipated by the investors and so we saw a great incline in the Indices Right after the day of the result the NIFTY 50 index saw a jump of 17.6% When the Bharatiya Janata Party (BJP), led by Narendra Modi, won the 2014 Lok Sabha Elections, it was a historic moment in Indian politics. The election result had a significant effect on the Indian stock market since it confirmed investors broad optimism about the new government's pro-business and reform-focused agenda as investors expected a government that would put infrastructure development, business- friendly policies, and economic reforms first. Key stock indices reached all-time highs in the days that followed the election results, indicating a strong vote of confidence from the financial markets. The Nifty 50 index saw an increase of 2% as the market had already anticipated and absorbed the news

The Bharatiya Janata Party (BJP) and its leader, Narendra Modi, emerged victorious in the much awaited and closely observed 2019 Lok Sabha Elections in India. The result of the election had a significant effect on the Indian stock market, which reflected expectations of continued policy and the market's reaction to the continuation of a stable government. The Index Nifty 50 saw a growth of 2.6% after the day of the event.

Statical Results of the Study

Nifty 50				
Year	2004	2009	2014	2019
Paired T Statistics	-15.7326	-23.1366	-21.6749	-7.7625
P Value Two Tailed	9.76E-16	3.06E-20	1.84E-19	1.47E-08
Nifty PSE				
Year	2004	2009	2014	2019
Paired T Statistics	-15.6851	-26.4048	-31.2228	-5.8003
P Value Two Tailed	1.06E-12	7.84E-22	7.14E-24	-2.76E-06

Here the null hypothesis is that there is no effect of Elections on the market and Alternate Hypothesis is that there is an effect of Elections on the market. The Studies Show that there is a significant effect of the Elections on the Stock Market. If T- statistics does not fall within the accepted 95% range of [-2.0452, 2.0452]. This suggests that the event had a considerable effect on the index. If the P value is less than 0.05 it signifies that there is a significant impact of the event.

Findings on IPO launches and Market Cycles

The dip in average listing gains is evident following the market crash on September 29, 2008. The subdued market sentiments in 2009, influenced by global economic conditions, had a notable impact. A considerable number of IPOs were listed below their issue prices during this period, contributing to a decline in the average listing gains.

When the markets were at peak in 2010 due the results and stability of the government in the elections in 2009 the IPOs saw an increase and when then after the market decline in 2012 the number of IPOs declined in 2012 and 2013 and then again saw a rise in the following years

Conclusion of the Study

The study focused on the Lok Sabha Elections that were held in 2004, 2009, 2014 & 2019. It studies whether they had a significant impact on the Indian Stock Markets. The studies showed a huge impact on the Stock market Indexes Nifty 50 and Nifty PSE.

The study focused on IPOs and boom Phase of the markets showed that the phases of the market and timing an IPO is very important for the companies to list at a higher price than their offer price. It shows that the market sentiments can change the investors perspective of investing money into IPOs. The study showed that the greatest number of IPOs were launched in the boom phase. This also proved that when a Number of IPOs come in a short period of time it indicates a boom phase and hence when we see such an increase in the IPO listing it is a sign that this is the peak of the boom phase and will be followed by a bear phase.

Identifying Indian Companies for Constructing a Growth Stocks Index

-Shritej Zemase

The NIFTY 50 and S&P BSE Sensex 30 are India's most widely followed stock market indices. The NSE Indices Limited (formerly India Index Services & Products Limited) also creates and provides a plethora of indices that cover various products available in the Indian capital markets. Accordingly, it offers 4 types of Equity Indices namely Broad-Based Indices, Sector Indices, Thematic Indices, and Strategic Indices.

The Strategy Indices include a total of 29 indices for a variety of strategies like Momentum, Arbitrage, Value, Quality, etc. However, an index for Growth investing strategy is yet to be constructed. While an index for growth sectors has been in place one for growth 'stocks' per se is missing. BSE Limited does not offer any index for the said strategy either. In addition to measuring stock market performance, indices may, among other things, serve as a performance benchmark for active fund managers. It can also be used for creating an exchange-traded fund for exploring passive investing strategy.

Growth Investing was popularized by Philip Fisher and involves investing in high-growth companies. This style of investing considers the quality of fundamentals as the most essential factor in investment and this process, high valuation is often not considered as a deterrent factor. It is a popular investment style followed by a variety of fund managers and seasoned investors. Value & Growth are contradictory yet the most common investment strategies and hence creating dedicated indices for the same has been a common practice among index providers all across the world. This research aims to analyze the index construction methodology adopted for growth investing by international index providers like S&P and Russell to find an appropriate methodology for constructing the growth stock index in India.

NIFTY Indices Ltd offers 2 types of Value indices i.e. Value 20 and Value 50. They are used by a good number of popular fund houses which makes it possible to invest passively in the Value stocks. The following are some of the popular ETFs/Index Funds that track or benchmark the NIFTY Value index:

- Nippon India Nifty 50 Value 20 Index Fund
- ICICI Prudential Value Discovery Fund
- UTI Nifty 500 Value 50 Index Fund
- ICICI Prudential Nifty 50 Value 20 ETF
- Kotak Nifty 50 Value 20 ETF, etc.

Lack of growth index is a missed passive growth investing strategy in India. NIFTY Indices Ltd provides an index named NIFTY Growth Sectors 15 index. While an index for growth sectors has been in place one for growth 'stocks' per se is missing. BSE Limited does not offer any index for the said strategy either. The HDFC NIFTY Growth Sector 15 ETF is the only fund in the Indian AMC industry that benchmarks its performance against the said NIFTY Growth Sector Index which fetches a minuscule AUM of Rs. 7 to 8 cr. The index was launched in 2014 whereas the said fund was launched recently in 2022. Hence the index seems to have not appealed much to the AMC industry.

Application of S&P Methodologies on NIFTY 100 Universe

The index construction methodology can be applied to the Indian stocks to find the stocks that end up getting shortlisted. The constructed index can also be observed for sectoral diversification. A universe of large-cap stocks is considered in the form of NIFTY 100.

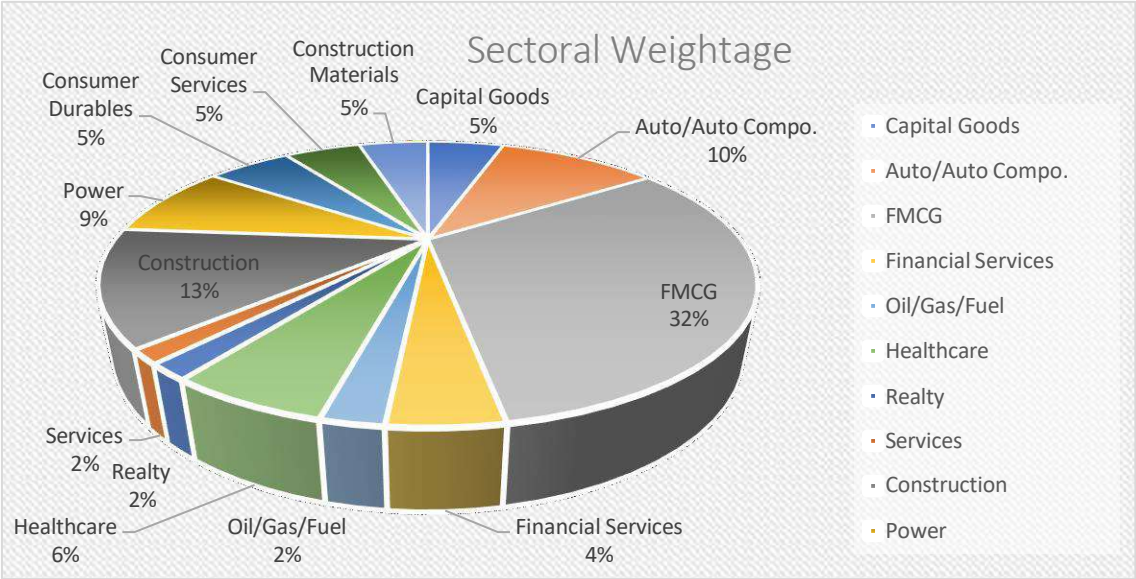
Here is the large-cap growth stocks portfolio in the Indian context as per the S&P methodologies:

Sr. No.	S&P Index		Weightage
1	Larsen & Toubro	Construction	13.085%
2	ITC	FMCG	12.399%
3	Titan Company	Consumer Durables	5.459%
4	Tata Motors	Auto/Auto Compo.	4.914%
5	NTPC	Power	4.867%
6	UltraTech Cem.	Construction Materials	4.624%
7	United Spirits	FMCG	4.624%
8	Power Grid Corporation	Power	3.764%
9	Nestle India	FMCG	3.589%
10	Bajaj Auto	Auto/Auto Compo.	3.098%
11	Dr Reddy's Labs	Healthcare	2.782%
12	Zomato Ltd	Consumer Services	2.678%
13	Coal India	Oil/Gas/Fuel	2.368%
14	Trent	Consumer Services	2.358%
15	Shriram Finance	Financial Services	2.284%
16	Bharat Electron	Capital Goods	2.262%
17	Varun Beverages	FMCG	2.225%
18	Tata Consumer	FMCG	2.215%
19	Britannia Industries	FMCG	2.158%
20	Cholaman.Inv.& Fn	Financial Services	2.016%
21	TVS Motor Co.	Auto/Auto Compo.	1.827%
22	Divi's Lab.	Healthcare	1.817%

23	Hindustan Aeronautics Ltd	Capital Goods	1.781%
24	DLF	Realty	1.742%
25	Godrej Consumer	FMCG	1.601%
26	Interglobe Aviation	Services	1.502%
27	Colgate	FMCG	1.184%
28	Marico	FMCG	1.114%
29	A B B	Capital Goods	1.016%
30	Torrent Pharma.	Healthcare	0.898%
31	Bosch	Auto/Auto Compo.	0.615%
32	P&G	FMCG	0.581%
33	Zydus Life Science	Healthcare	0.552%

Sectoral diversification stands as follows:

Sr. No.	**Sector/Industry**	**Weightage**
1	Capital Goods	5.06%
2	Auto/Auto Compo.	10.45%
3	FMCG	31.69%
4	Financial Services	4.30%
5	Oil/Gas/Fuel	2.37%
6	Healthcare	6.05%
7	Realty	1.74%
8	Services	1.50%
9	Construction	13.08%
10	Power	8.63%
11	Consumer Durables	5.46%
12	Consumer Services	5.04%
13	Construction Materials	4.62%
Total		**100.00%**



Application of Russell Methodologies on NIFTY 100 Universe

The Russell methodology is applied to the NIFTY 100 index as well. However, the resulting index is calculated by considering a universe of 89 stocks and not 100 stocks as the stocks with unavailable ratios are dropped and not considered for further calculations.

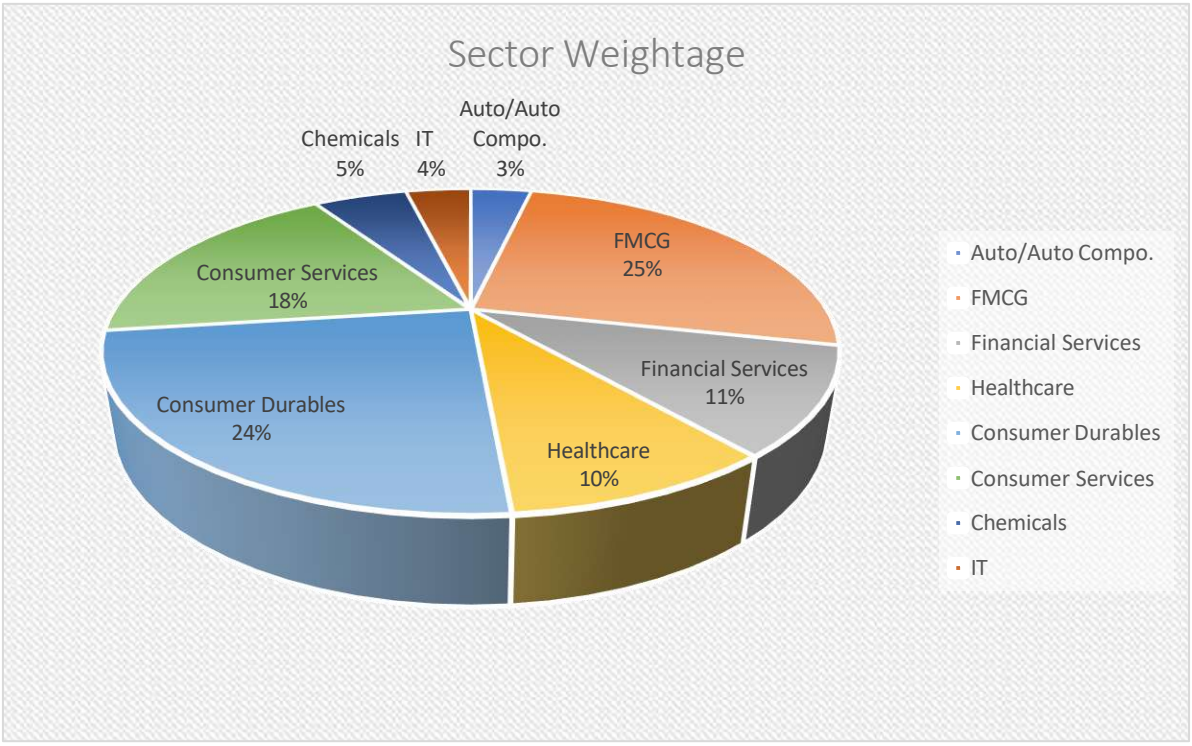
Here is the large-cap growth stocks portfolio in the Indian context as per the Russell methodologies:

Sr. No.	Russell Index		Weightage
1	Adani Wilmar	FMCG	11.62%
2	Apollo Hospitals	Healthcare	10.24%
3	Asian Paints	Consumer Durables	8.67%
4	Avenue Super.	Consumer Services	7.46%
5	Britannia Industries	FMCG	6.73%
6	Cholaman.Inv.&Fn	Financial Services	5.15%
7	Divi's Lab.	Healthcare	5.02%
8	Havells India	Consumer Durables	4.48%
9	HDFC Life Insurance	Financial Services	4.42%
10	IRCTC	Consumer Services	4.18%
11	LTIMindtree	IT	4.05%
12	Nestle India	FMCG	3.78%
13	P&G	FMCG	3.67%
14	Pidilite Industries	Chemicals	3.43%
15	SBI Cards	Financial Services	3.41%
16	SRF	Chemicals	2.79%

17	Titan Company	Consumer Durables	2.46%
18	Torrent Pharma.	Healthcare	2.36%
19	Trent	Consumer Services	1.69%
20	TVS Motor Co.	Auto/Auto Compo.	1.54%
21	United Spirits	FMCG	1.32%
22	Varun Beverages	FMCG	1.09%
23	Zomato Ltd	Consumer Services	0.43%

Sectoral diversification stands as follows:

Sector/Industry	**Weightage**
Auto/Auto Compo.	3.428%
FMCG	25.158%
Financial Services	10.467%
Healthcare	9.576%
Consumer Durables	24.228%
Consumer Services	18.228%
Chemicals	5.245%
IT	3.670%
Total	**100.000%**


Sector Weightage
Auto/Auto Compo. 3%
IT 4%
Chemicals 5%
FMCG 25%
Financial Services 11%
Healthcare 10%
Consumer Durables 24%
Consumer Services 18%
Auto/Auto Compo.
FMCG
Financial Services
Healthcare
Consumer Durables
Consumer Services
Chemicals
IT

ESG Mutual Funds In India: Retail Investor Perspective

-Alankriti Pandita

INTRODUCTION

ESG investing has grown rapidly since its inception in the 1990s, driven by concerns about climate change, social responsibility, and good governance. Global sustainable investment assets reached a staggering $30.7 trillion by 2020, and the trend continues to gain traction in India and other economies. Investors are increasingly prioritising ESG factors over traditional financial metrics, seeking investments that align with sustainable practices and address environmental and social challenges. Traditional investment approaches, focusing solely on financial returns, are seen as less effective in today's world, prompting a review and shift towards ESG-focused strategies. Institutional investors are particularly aware of the financial risks associated with climate change and ESG issues, driving the adoption of ESG programs worldwide.

The research design followed is experimental in nature and has been obtained by generating primary data with the help of floating surveys. This design was chosen so as to understand the retail investors' perspective and attitude towards the companies' ESG initiatives. In addition, this research focuses on analysing the retail investor knowledge towards ESG investment decision making.

ESG MUTUAL FUNDS

ESG investing is gaining traction globally, with thematic ESG mutual funds offering diversification, liquidity, and sustainability. India's ESG market is still nascent, with few asset management companies offering ESG schemes despite their existence for over five decades. ESG investing allows investors to align their values with their investments and potentially improve financial returns. Companies with strong ESG profiles are less likely to face legal, reputational, or financial risks. ESG practices can benefit companies by reducing costs and improving efficiency. Despite initial enthusiasm, ESG funds in India have faced recent outflows, indicating a lack of awareness and focus on immediate returns among retail investors. Convincing retail investors of the long-term benefits of ESG investing will require time and education. Global ESG investments are booming, with $40 trillion committed and major Indian businesses embracing sustainability goals. India's ESG market is expected to grow significantly, reaching 30% of the total investment market by 2030.

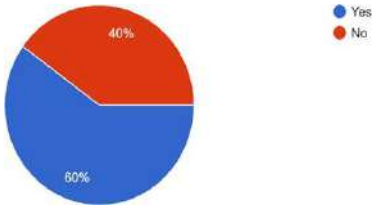
FINDINGS

Frequencies of Investment in ESG MF

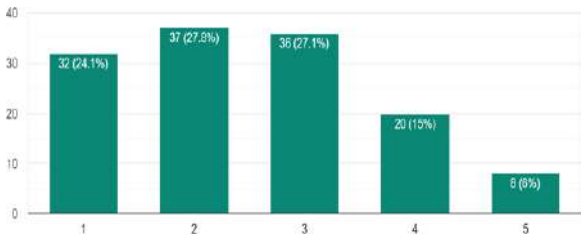
Investment in ESG MF	Gender	Counts	% of Total
No	Male	80	39.2 %
	Female	33	16.2 %
Want to consider	Male	47	23.0 %
	Female	20	9.8 %
Well diversified portfolio	Male	19	9.3 %
	Female	5	2.5 %

Since investors wish to invest in ESG and still only a few of the respondents have a well diversified portfolio is it because of the awareness level of retail investors?
The data believes not.
But it does believe that Indian retail investors are less likely to consider investing in ESG mutual funds rather than foreign investors.

Awareness of ESG Mutual funds



Indians not considering ESG MFs



Confirmatory Factor Analysis

Factor Loadings

Factor	Indicator	Estimate	SE	Z	p
E	T8-Social/environmental considerations	0.5130	0.0616	6.29	< .001
	T15-Mitigate environmental degradation	1.0405	0.0860	12.10	< .001
S	T14-Social standard of living	0.9374	0.0710	13.21	< .001
	T12-CSR making impact on society	0.7809	0.0722	10.82	< .001
	T16-Disclosure of ESG by companies	0.8992	0.0705	12.76	< .001
G	T11-Risk mitigation	0.2638	0.0730	3.61	< .001
	T9-Higher brand recognitions	0.3815	0.0813	4.69	< .001
	T13-ESG+corporate gov	0.9382	0.0744	12.60	< .001
	T17-Generation of alpha	0.6905	0.0797	8.66	< .001
	T17-ESG related issues are companys' responsibility	0.0761	0.0212	3.58	< .001

Model Fit

Test for Exact Fit

χ^2	df	p
141	32	< .001

Fit Measures

TLI	SRMR
0.811	0.0837

A confirmatory factor analysis was conducted to investigate the relation between unobserved and observed variables. The model has been assessed using two fit indices - Tucker Lewis Index (TLI) and Standardised Root Mean Square Residual (SRMR). Five factors have been chosen namely E-Environment,S-Social, G-Governance, A-Attitude and K-Knowledge. Results of how retail investor belief is driven by company's E,S,G actions.
SRMR - 0.083 - MARGINAL FIT TLI - 0.811 - MARGINAL FIT.
Observed variables showcase some discrepancy but are marginally acceptable with the latent factors.

Confirmatory Factor Analysis

Factor Loadings

Factor	Indicator	Estimate	SE	Z	p
A	T17-ESG related issues are companys' responsibility	0.0782	0.0219	3.571	< .001
	T3-Indian investors consideration over foreign investors	0.0176	0.0834	0.212	0.832
	T10-Long term returns	0.2616	0.0845	3.096	0.002
	T14-Social standard of living	0.9722	0.0723	13.446	< .001
	T13-ESG+corporate gov	0.9724	0.0737	13.192	< .001
	T15-Mitigate environmental degradation	0.9964	0.0720	13.873	< .001

Results of retail investor attitude towards investing in ESG sector SRMR - 0.03 - GOOD TLI - 0.981 – GOOD The observed variables are a good fit with the latent variables.

Model Fit

Test for Exact Fit

χ^2	df	p
12.5	9	0.185

Fit Measures

Confirmatory Factor Analysis

Factor Loadings

Factor	Indicator	Estimate	SE	Z	p
K	T4-Need for awareness and edu	0.2982	0.0532	5.61	< .001
	T6-Investment in ESG MF	-0.4381	0.0761	-5.76	< .001
	T7-Knowledge of ESG MFs	-0.0806	0.0435	-1.85	0.064
	T2-Confidence in ESG knowledge	-0.2727	0.0989	-2.76	0.006
	T5-Consider investing in ESG MF	-0.2630	0.0363	-7.24	< .001

Results of retail investors investment decisions influenced by their ESG knowledge base.
SRMR - 0.05 - GOOD
TLI - 0.724 - NOT ACCEPTABLE
The observed variables do not fit with the latent factors and may have issues with the model.

Model Fit

Test for Exact Fit

χ^2	df	p
16.2	5	0.006

Fit Measures

TLI	SRMR
0.724	0.0542

Conclusion

In the upshot, retail investors are aware of ESG mutual funds but financial returns remain their primary motivator hence their understanding and interest remain limited since there is not much data backing the same. This creates a gap between the knowledge and action requiring more awareness and education about ESG investing. Retail investor attitude towards ESG investing is neutral to positive whereas institutions are perceived as leading the ESG charge. ESG investing has growth potential in India but addressing knowledge gaps, financial benefits and empowering retail investors is still a crucial step to make.

EXPECTED SHORTFALL OF BOND PORTFOLIO: A FINANCIAL RISK MEASUMENT USING VAR AND CVA

-SHAIK MAHFUZ

INTRODUCTION:

Financial institutions face various types of risk, including business risk, strategic risk, and financial risk, with the latter arising from uncertain changes or movements in financial markets (van den Goorbergh 1999). The Bank for International Settlements (BIS) has incorporated market risk as an integral component of the total risk that requires capital provision by a bank.

Financial professionals now apply Value at Risk (VaR) and CVaR as the industry standard for measuring market risk. VaR is commonly defined as the maximum potential loss in value of portfolio (i.e, loss in portfolio) of financial instruments with a given probability over a certain period of time or horizon and Conditional Value at risk (CVaR) goes beyond VAR by evaluating the average loss magnitude in the worst-case scenarios.

The Basel Committee on Banking Supervision (1996) from Bank for International Settlements (BIS) mandates banks to fulfil capital requirements determined by VAR estimates using an internal model approach. While this approach allows supervised banks the flexibility to use their own models, the BIS has set minimum standards for VAR estimates and implemented specific tests to prevent potential underestimation of VAR by banks in an attempt to reduce capital requirements.

Value at Risk: Value at Risk (VaR) quantifies the potential loss on an investment or portfolio over a specified time period and at a given confidence level.

Conditional Value at Risk: Conditional Value at Risk (CVaR), also known as Expected Shortfall (ES), is a risk assessment metric that extends the concept of Value at Risk (VaR). While VaR measures the maximum potential loss within a specified confidence level, CVaR goes further by evaluating the expected loss given that the loss exceeds the VaR.

Sources of Data

G-sec information taken from the RBI.

14 security prices are taken from Bloomberg.

OBJECTIVE AND AIM:

1. To find out Value at risk and conditional value at risk or expected loss of bond portfolio using real time data.
2. Specific Aims: To know the potential loss of a bond portfolio using two financial risk measurement VAR and CVAR at 99% confidences level.
3. To find out Value at risk and conditional value at risk or expected loss can go beyond VAR and CVAR or not and if yes who many times for individual securities.
4. To find out Value at risk and conditional value at risk or expected loss can go beyond VAR and CVAR or not and if yes who many times or a bond portfolio of 14 securities combined.
5. VAR and CVAR for 6 securities of portfolio to find out the significances of the model.
6. To find the significances of a VAR and CVAR as financial Risk Model.

METHODOLOGY:

The historical simulation method will be employed for the implementation of both the Value-at-Risk and Expected Shortfall risk models. Two primary factors guide this choice over the other simulation methods. Firstly, regulatory preferences favor the historical simulation method. Secondly, the ease of access and computation associated with historical data makes it a practical choice.

Results:

Value at Risk and Conditional Value at Risk for individual government securities:

Table-1 Failed of VAR and CVAR at 99% confidences level for Government of India Individual securities.

ISIN	Total VAR Failed	Total CVAR Failed
IN0020150010	16	5
IN0020110048	19	6
IN0020150093	13	2
IN0020060078	18	3
IN0020140011	21	6
IN0020150069	18	4
IN0020150028	19	5
IN0020060086	14	5
IN0020140052	25	8
IN0020150051	21	7
IN0020100031	18	6
IN0020120062	19	9
IN0020150077	15	8
IN0020060045	19	4

Example: -Let's us look at IN0020150010 as an example. Among the 2060 returns, there are 16 business days where the return is worse than the Value-at-Risk metric and 5 days where the returns of a security is more than expected shortfall at a confidences level of 99%.

Value at Risk and Conditional Value at Risk of a Portfolio:

Combination of 14 individual securities as portfolio:

when we calculate Value at Risk (VAR) and Conditional Value at Risk at a confidences level of 99% for individual Government of India securities, we can identify scenarios where the loss exceeds the calculated VaR and CVAR. However, when these securities are combined into a portfolio of 14 government securities, the diversified nature of the portfolio seems to mitigate the occurrence of scenarios where the overall loss surpasses the VAR and CVAR.so we find VAR and CVAR was good and not a day where returns are worst than VAR and CVAR.

Combination of SIX individual Securities as Portfolio:

Table 2 – Six individual securities

No	"International Securities Identification Numbering system"	"Nomenclature"	"Date of issue"	"Date of maturity"	"Outstanding Stock (Rs. Crore)"
1	IN0020110048	9.15% GS 2024	14-11-2011	14-11-2024	78,012.541
2	IN0020060078	8.24% GS 2027	15-02-2007	15-02-2027	1,09,421.338
3	IN0020140011	8.60% GS 2028	2-06-2014	2-06-2028	1,06,230.301
4	IN0020140052	8.24% GS 2033	10-11-2014	10-11-2033	1,01,474.60
5	IN0020150051	7.73% GS 2034	12-10-2015	19-12-2034	1,05,362.65
6	IN0020120062	8.30% GS 2042	31-12-2012	31-12-2042	1,05,699.94

Table 3 - where shows Value at risk and Conditional value at risk at 99% confidences level of a portfolio is failed in what date`s

Date	Value at Risk	Conditional Value at Risk	Returns	Is VAR is Good?	Is CVAR is Good?
08-02-2017	-0.646%	-0.678%	-0.997%	FALSE	FALSE
09-02-2017	-0.656%	-0.758%	-1.222%	FALSE	FALSE
10-05-2018	-0.551%	-0.779%	-0.562%	FALSE	TRUE
28-06-2018	-0.557%	-0.780%	-0.567%	FALSE	TRUE
13-03-2020	-0.543%	-0.698%	-0.770%	FALSE	FALSE
02-02-2022	-0.488%	-0.656%	-0.525%	FALSE	TRUE
11-04-2022	-0.490%	-0.648%	-0.498%	FALSE	TRUE
06-05-2022	-0.495%	-0.649%	-0.678%	FALSE	FALSE

- Above table shows the dates where Value at risk has failed and in some dates where CVAR had also failed at a confidences level of 99%.
- There are only 8 out of 2060 scenarios where the model Value at risk is failed and 4 out of 2060 scenarios where conditional value at risk is failed means this are the days where “things got bad” and the value or the loss of the portfolio or the investment has exceeded the expectations.

Conclusion:

For individual Government securities:

Over the course of the past approx. 7 years (from 2016 to 2023), both Value-at-Risk and Expected Shortfall have demonstrated a commendable level of reliability as risk measures for the G-sec securities. Specifically, Value-at-Risk experienced failures more than 15 out of 2060 returns, while Expected Shortfall exhibited failures in only more than 5 below 10 returns out of 2060 retuns. A clear comparison between these two risk measures highlights the superior reliability of Expected Shortfall over Value-at-Risk, evident in its significantly lower failure rate.

For Portfolio of 14 securities:

In this portfolio had shown more significances and not a day where the daily returns is more than value at risk and conditional value at risk at 99% confidences level.

For portfolio of 6 Government securities:

Over the course of the past approx. 7 years (from 2016 to 2023), both Value-at-Risk and Expected Shortfall have demonstrated a commendable level of reliability as risk measures for the portfolio of G-sec securities. Specifically, Value-at-Risk experienced failures 8 out of 2060 returns, while Expected Shortfall exhibited failures in only 4 out of 2060 retunes. A clear comparison between these two risk measures highlights the superior reliability of Expected Shortfall over Value-at-Risk, evident in its significantly lower failure rate.

Significances of VAR and CVAR(which is better):

From above results, the Expected Shortfall proves to be a more dependable risk measure than Value-at-Risk across various financial instruments. While Expected Shortfall is not infallible and has instances where it doesn't fully cover the actual loss, it is consistently more reliable than Value-at-Risk. This discrepancy is particularly evident on days with the worst returns, where Expected Shortfall outperforms Value-at-Risk even in comparison to days with normal market conditions.

GIFT City: A Game Changer for India Global Financial Centre

-Harshad Kakde

Introduction

A global financial center, also known as an international financial centre or a financial hub, is a city or region that plays a significant role in the international financial system. It serves as a central hub for various financial activities, acting as a catalyst for economic growth and facilitating financial transactions and services on a global scale. Global financial Centres are critical to the functioning of the global economy, providing a platform for capital flows, investment opportunities, and financial services.

Leading Financial Centres across globe

1. New York City, USA: Wall Street in New York City is a global financial powerhouse, renowned for its dominance in investment banking, securities trading, and asset management. It is home to major stock exchanges such as the New York Stock Exchange (NYSE) and NASDAQ.

2. London, UK: London is a prominent global financial Centre, with the City of London serving as its financial district. It specializes in investment banking, foreign exchange trading, insurance, and commodity trading. London's financial district houses the London Stock Exchange and key financial institutions.

3. Singapore: Singapore has emerged as a prominent financial Centre in Southeast Asia, with a focus on private banking, wealth management, asset management, and commodity trading. It boasts a robust regulatory environment and is known for its stability and transparency.

4. Hong Kong, China: Hong Kong is a key financial Centre in Asia, functioning as a gateway for international investors looking to access China's markets. It excels in international banking, trade finance, wealth management, and financial technology.

5. San Francisco, USA: San Francisco is widely recognized as a prominent global financial center, playing a crucial role in the financial industry on both a regional and international level. Known for its thriving tech and innovation ecosystem, the city has become a hub for venture capital, private equity, and technology-driven financial services.

Center	Rank	GFCI (Rating)
New York	1	760
London	2	731
Singapore	3	723
Hong Kong	4	722
San Francisco	5	721
Los Angeles	6	719
Shanghai	7	717
Chicago	8	716
Boston	9	715
Seoul	10	714
Washington DC	11	713
Shenzhen	12	712
Beijing	13	711
Paris	14	710
Sydney	15	709
Amsterdam	16	708
Frankfurt	17	707
Munich	18	706
Luxembourg	19	705
Zurich	20	704
Tokyo	21	703
Dubai	22	702
Geneva	23	701
Copenhagen	24	700
Toronto	25	699
GIFT City-Gujarat	67	625

Gujrat International Finance Tech-City

Introduction

GIFT City known as Gujarat International Finance Tec-City; GIFT is an India first international financial centre. It is a state-of-the-art global financial and information technology hub It was established to promote international financial services and create a world-class business within the country.

Gift City has Special Economic Zone (SEZ) and Domestic Tariff Area (DTA) where SEZ has International Financial Services Centre (IFSC) and DTA has a Domestic financial centre.

The first International Financial Services Centre (IFSC) in India is located at GIFT City. It is perfectly situated as a gateway for India's needs for both inbound and outbound international financial services. Its main objective is to offer those financial services that foreign financial institutions and foreign branches/subsidiaries of Indian financial institutions already use outside. The IFSC at GIFT City is growing into a place with an environment like other offshore locations while also assisting the expansion of India's domestic financial markets.

Key Features

1. Special Economic Zone (SEZ): GIFT City is designated as a Special Economic Zone, providing a favourable business environment with tax incentives, simplified regulations, and relaxed customs duties. The SEZ status encourages foreign investment and enables businesses to operate in a tax-efficient manner.

2. Regulatory Framework: GIFT City operates under a unique regulatory framework. It has its own regulator, the International Financial Services Centre Authority (IFSCA), which governs financial activities within the IFSC. The IFSCA ensures compliance with international best practices and provides a conducive environment for businesses to operate smoothly.

3. FinTech Hub: GIFT City has a dedicated FinTech Hub that promotes the growth of technology-driven financial services. It supports innovation, research, and development in areas such as blockchain, artificial intelligence, digital payments, cybersecurity, and data analytics. The hub encourages collaboration between technology startups, established companies, and academic institutions.

4. International Financial Services Centre: The International Financial Services Centre (IFSC) in GIFT City is designed to provide a world-class ecosystem for conducting a wide range of financial services on an international scale. It serves as a platform for various financial activities, including banking, insurance, capital markets, asset management, and more. The IFSC operates under a unique regulatory framework to facilitate seamless international transactions and foster a conducive business environment.

Regulatory Body

International Financial Services Centres Authority

The IFSCA is a unified authority for the development and regulation of financial products, financial services, and financial institutions in the International Financial Services Centre (IFSC) in India. At present, the GIFT IFSC is the maiden international financial services centre in India. Prior to the establishment of IFSCA, the domestic financial regulators, namely, RBI, SEBI, PFRDA and IRDAI regulated the business in IFSC.

As the dynamic nature of business in the IFSCs requires a high degree of inter-regulatory coordination within the financial sector, the IFSCA has been established as a unified regulator with a holistic vision in order to promote ease of doing business in IFSC and provide world class regulatory environment. The main objective of the IFSCA is to develop a strong global connect and focus on the needs of the Indian economy as well as to serve as an international financial platform for the entire region and the global economy as a whole.

For the first time, the regulatory powers of four financial services regulators in India, namely, Reserve Bank of India (RBI), Securities & Exchange Board of India (SEBI), Insurance Regulatory Development Authority of India (IRDAI), Pension Fund Regulatory Development Authority of India (PFRDAI), have been vested in IFSCA with respect to regulation of financial institutions, financial services and financial products in the IFSC.

Registered Entity under IFSCA as on date 03-01-2024

Sr No	Category	Registered Entities
	Alternative Investment Fund	63
2	Ancillary Service Provider	41
3	Banks	26
4	Broker Dealers	72
5	Bullion Trading/Clearing Members	12
6	Clearing Corporations	2
7	Clearing Members	20
8	Custodian	5
9	Debenture Trustees	3
10	Depository	1
11	Depository Participants	10
12	Finance Company	35
13	Fintech Entities	46
14	Fund Management Entity	73
15	Global Administrative Office	1
16	Global In-house Centre	3
17	Insurance Intermediaries	18
18	Insurance/Reinsurance Companies	4
19	Investment Adviser	6
20	Investment Bankers-Authorised	2
21	Investment Bankers-Registered	1
22	Portfolio Manager	5
23	Qualified Jewellers	104
24	Registered Distributors	5
25	Stock Exchanges	3
26	Vault Manager	3

Leading Global Bullion Exchanges

A bullion exchange is a marketplace where various precious metals, such as gold, silver, platinum, and palladium, are traded. These exchanges provide a platform for buyers and sellers to engage in transactions related to precious metals, including spot trading, futures contracts, options, and other derivatives.

1. London Bullion Market Association (LBMA): The LBMA is a globally recognized authority for the precious metals market. It operates the London Gold Market and London Silver Market, which are over the counter (OTC) markets for trading gold and silver. The LBMA sets industry standards and oversees the Good Delivery List, which certifies the quality and purity of gold and silver bars.

2. The Commodity Exchange (COMEX): COMEX, a division of the CME Group, is one of the largest commodity futures exchanges in the world. It offers futures and options contracts for gold, silver, platinum, and palladium, allowing investors and hedgers to participate in price discovery and risk management of these precious metals.

3. Shanghai Gold Exchange (SGE): The SGE is the largest physical bullion exchange in the world. It operates an electronic platform for trading gold, silver, and other precious metals. The exchange facilitates spot trading, futures contracts, and options, catering to domestic and international participants.

4. India International Bullion Exchange (IIBX): IIBX has been conceptualised to provide a gateway to import bullion into India and provide world class bullion exchange ecosystem to promote bullion trading, investment in bullion financial products and vaulting facilities in IFSC.

Introduction of IIBX

India's gold market, a giant in the world's bullion landscape, just got a major boost with the launch of the India International Bullion Exchange (IIBX). Inaugurated on July 29th, 2022, by Prime Minister Narendra Modi, IIBX marks a significant step towards India playing a leading role in the global bullion market.

Backed by leading market infrastructure institutions like NSE, INDIA INX (a subsidiary of BSE), NSDL, CDSL, and MCX, IIBX calls GIFT City, Gandhinagar, Gujarat, its home. This strategically located International Financial Services Centre (IFSC) serves as the gateway for IIBX to facilitate bullion imports and foster a world-class ecosystem for bullion trading, financial product investment, and vaulting facilities.

Transparency and ethical sourcing are key pillars of IIBX. Adherence to the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas ensures responsible sourcing practices throughout the bullion supply chain.

Secured vaults authorized by the International Financial Services Centres Authority (IFSCA) and empanelled by India International Depository IFSC Limited (IIDI) hold the physical bullion traded on IIBX. Bullion Depository Receipts (BDRs) represent this physical bullion, and trading on IIBX takes place in these BDRs. To participate, demat accounts must be opened with IIDI, where BDRs will be credited.

In essence, IIBX marks a bold step for India in the global bullion market. With its focus on transparency, responsible sourcing, and a robust trading infrastructure, IIBX is poised to propel India further into the heart of the global bullion trade.

Key Features of the IIBX

1. Secure Trading Infrastructure: The IIBX possess a robust and highly secure trading infrastructure that ensures the confidentiality and integrity of all transactions. Advanced technology systems and stringent cybersecurity measures protect against unauthorized access, ensuring a safe trading environment for participants.

2. Wide Range of Products: The IIBX offers a comprehensive suite of bullion products such as Gold 995, Gold 999, UAE Gold 995. UAE Gold 999 to cater to the diverse needs of its participants.

3. Efficient Price Discovery: Market participants benefit from the IIBX's efficient price discovery mechanisms. Through competitive bidding and real-time price dissemination, participants can access accurate and up-to-date market information, enabling them to make informed trading decisions and optimize their risk-return profiles.

4. Risk Mitigation: The IIBX offers risk management tools and mechanisms to help market participants mitigate counterparty and price risks associated with bullion trading. This includes clearing and settlement services, collateral management facilities, and standardized contract specifications. The IIBX's risk management framework enhances the stability and security of bullion transactions.

5. Regulatory Compliance: The IIBX operates in full compliance with IFSCA standards and guidelines. It maintains strong relationships with regulatory bodies, ensuring adherence to anti- money laundering (AML). This commitment to regulatory compliance fosters trust among participants and contributes to the overall integrity of the financial system.

6. Promoting Transparency: The IIBX seeks to enhance transparency in bullion trading by providing a regulated and well-governed marketplace. By adhering to stringent compliance standards and market surveillance mechanisms, the IIBX fosters a transparent trading environment that inspires confidence among market participants.

7. Enhancing Liquidity: The IIBX aims to deepen the liquidity of the Indian bullion market by attracting a diverse range of market participants, including qualified jeweller, bullion dealers, refineries. By offering a centralized platform for trading the IIBX facilitates increased market liquidity and price discovery.

ANALYSIS OF EFFECT OF MACROECONOMIC VARIABLES ON INDIAN SECURITIES MARKET

HARSH LAVEKAR

This study's main goal is to find out how important macroeconomic factors like GDP growth, inflation, exchange rates, and fiscal policies affect the performance of the Indian securities market. This study aims to determine the direction and magnitude of these effects through a thorough empirical analysis, providing insight into their implications for policymakers and investors alike. In order to do this, we'll use a strong methodology that looks at historical data over a long period of time using statistical techniques.

Macro-economically speaking, an economy's health and performance are determined by a wide range of factors. The Gross Domestic Product (GDP), unemployment rates, inflation rates, currency rates, and fiscal policies of the government are a few examples of these factors. Each of these factors affects employment, economic growth, and the general stability of a country's financial system, acting as a thread in the economic tapestry.

Bridging Economic Forces and Financial Markets: The securities market is a crucial player in the dynamic world of global finance, deeply ingrained in the structure of economies. This market's dynamic force of financial instrument exchange affects capital allocation, investment choices, and the direction of the economy as a whole. Within the dynamic and swiftly evolving Indian economy, the securities market assumes a pivotal role in steering capital movements and shaping the expansion paths of diverse economic domains.

The Securities Market: Pillar of Financial Systems: Every strong financial system must have the securities market, which includes the debt and equity markets. It acts as a medium for the issuance and trading of a variety of financial instruments, including derivatives and stocks and bonds. This marketplace, the meeting place for buyers and sellers, is more than just a place to do business; it's a furnace where supply and demand shape market prices, shaping investor sentiment and encouraging capital accumulation. The securities market is even more important when considering the Indian economy.

The central idea of this dissertation is the junction between the securities market and macroeconomic variables. This study intends to reveal the complex ways in which macroeconomic pressures affect Indian securities by exploring the complex linkages between economic indicators and market dynamics, by illuminating the variables that influence market fluctuations and mold investment strategies in the Indian context, our investigation seeks to advance knowledge of the relationship between macroeconomics and the securities market.

Connecting Financial Markets and Economic Factors

Findings:

- Past values of CrudeOil significantly Granger cause Nifty50.
- Past values of Inflation Significantly Granger cause Nifty50.
- Past values of USDINR significantly Granger cause Nifty50.

Therefore, there is evidence to suggest Granger causality, implying that past values of these variables contain information useful for forecasting Nifty50.
The negative coefficient suggests an inverse relationship with the dependent variable.
Indicates a positive relationship with the dependent variable.
Positive coefficient suggests a positive relationship with the dependent variable.

There is a weak positive correlation (0.1795) between Nifty50 and CrudeOil. This suggests that as Nifty50 increases, CrudeOil tends to increase slightly, and vice versa. The correlation is not very strong, indicating a weak positive association.
There is a weak positive correlation (0.1867) between Nifty50 and Inflation. Similar to the correlation with CrudeOil, this suggests a weak positive association, but the relationship is not very strong.

There is a moderate negative correlation (-0.5212) between Nifty50 and USDINR. This suggests that as Nifty50 increases, USDINR tends to decrease, and vice versa. The negative sign indicates an inverse relationship, and the correlation is moderate in strength.

By Using **VAR Model we can predict the Variables Values :**

$Nifty50

	fcst	lower	upper	CI
[1,]	19947.55	18929.71	20965.40	1017.846
[2,]	20008.11	18630.90	21385.31	1377.205
[3,]	20065.29	18465.81	21664.77	1599.482
[4,]	20134.24	18371.31	21897.16	1762.925
[5,]	20216.44	18319.84	22113.04	1896.599
[6,]	20310.50	18297.22	22323.78	2013.277
[7,]	20414.46	18295.34	22533.57	2119.114
[8,]	20526.44	18309.19	22743.68	2217.247
[9,]	20644.85	18335.48	22954.22	2309.370
[10,]	20768.40	18371.93	23164.87	2396.470

$Crude Oil

	fcst	lower	upper	CI
[1,]	6206.203	5291.570	7120.835	914.6322
[2,]	6165.623	4809.768	7521.478	1355.8547
[3,]	6159.708	4498.125	7821.290	1661.5827
[4,]	6169.712	4278.252	8061.173	1891.4605
[5,]	6187.720	4114.891	8260.548	2072.8286
[6,]	6210.106	3990.066	8430.145	2220.0397
[7,]	6235.076	3893.510	8576.642	2341.5660
[8,]	6261.657	3818.742	8704.573	2442.9155

[9,]	6289.270	3761.309	8817.232	2527.9615
[10,]	6317.551	3717.950	8917.151	2599.6009

The above data is the prediction of closing prices at a monthly timeframe for 10 future intervals for Nifty 50, Crude Oil.
, the first prediction of Nifty50 is 19947.55 and according to its lower bound and upper bounds, the amount so predicted will be between 18929.71 and 20965.40 and the confidence interval for the aforesaid prediction will be 1017.846

Conclusion:
We examined the complex relationships between macroeconomic factors and the Indian securities market, with a particular focus on the Nifty 50, in this extensive study. We sought to understand the dynamics underlying the relationships between the Nifty 50 and important economic indicators over extended periods of time by utilizing a variety of statistical techniques.

We learned a lot about the temporal precedence and predictive ability of different macroeconomic variables on the Nifty 50 from our Granger Causality Tests. An extensive analysis of the causal relationships between Nifty 50 and Crude Oil, Inflation, and USDINR was made possible by the monthly closing prices over the previous ten years. The findings demonstrated a strong causal relationship and provided insight into how variations in these factors might affect the Nifty 50's movement.

In addition to adding to the body of knowledge regarding the Indian securities market, this study has applications for investors, regulators, and market analysts. In a constantly changing financial environment, the discovered causal relationships, predictive models, and correlations offer a basis for strategic decision-making.

It is critical to recognize that financial markets are dynamic and that ongoing analysis and adaptation are required. Subsequent studies could focus more intently on particular industries or sectors, investigate the effects of world economic events, and incorporate more sophisticated modeling methods to provide a more nuanced understanding of the intricate relationships at work.

Essentially, this dissertation provides a solid basis for future research and well-informed financial decision-making by demonstrating the complex interactions between macroeconomic factors and the Indian securities market.

REITs/InvITs: Is it a Better Financial Instrument for Investment

- Hiten Doshi

In India REITs (investment trusts for real estate assets) and InvITs (investment trusts for infrastructure assets) were recognized in year 2016. Investors can generate income without purchasing any properties through REITs and InvITs, which are investment vehicles that own and manage real estate and infrastructure-related assets

The real estate investment trusts (REITS), invest mainly in completed and rent-generating real estate assets. National Stock Exchange defines infrastructure investment trust (InvIT) as a collective investment scheme akin to mutual funds. It lets investors to put their money directly in infrastructure projects to earn a small portion of the income as return.

The Securities and Exchange Board of India (SEBI) oversees REITs and InvITs in India. The laws pertaining to REITs and InvITs have changed significantly since their introduction in 2014, and the structures have become more popular. There are five REITs and 19 InvITs that are registered with SEBI as of October 2022. The Indian assets under management (AUM) As of March 31, 2022, REITs and InvITs are valued at approximately Rs 4,50,000 crore.

Following are the stakeholders in the trust:

- A sponsor sets up a REIT/ InvIT by transferring assets to it for a price and holds a stake in the trust
- An investment manager takes decisions of the trust, which includes acquisition/divestment and appointment of a project manager
- The project manager maintenance and manages operations of the assets
- The trustee ensures compliance with regulations by SEBI
- Unitholders are investors akin to shareholders
- Lenders provide debt financing to the trust or to the underlying assets housed in special- purpose vehicles (SPVs)

Theoretically, REITs and InvITs work similarly to mutual funds in that they pool the capital of institutional and retail investors and use it to invest in real estate or infrastructure projects. The revenue generated by these projects is then disbursed to unitholders on a regular basis. Nevertheless, in contrast to mutual funds, they also exhibit traits of a business venture because they issue loans and, for the most part, actively participate in projects to optimize returns to investors.

REITs and InvITs: Key advantages

- Indian REIT/InvIT structures, relative to their international counterparts, have higher inbuilt safeguards emanating from certain regulatory requirements that are credit-supportive: Investments in operational projects, Leverage restrictions, Better transparency.

- For Developers: More chances for developers, asset owners, and financial investors to enter and exit the market, allowing them to maximize the value of their assets.

- For Investors: easy entry and exit in the real estate sector, allowing modest retail investors to engage in asset classes that would otherwise be out of their price range, Opportunities for retirement planning that provide steady income streams and investment diversification.

Inherent Challenges:

- real estate industry and its Dark legacy: Land titles/names, permitting, environmental clearances and permissions, and litigation plague the Indian real estate industry
- premium quality- real estate and rental space supply is limited
- Past performance of listed real estate companies and Risk of currency fluctuations

Findings:

REITs and InvITs are a good instrument to get the regular income and secondly these instruments are low volatile. They generate the income from the rent generating real estate and Infrastructure projects. Almost all REIT/INVITS have AAA Crisil ratings.

From the data of NIFTY REIT/INVIT it is observed that there is very less capital gain and appreciation but if the total return is considered then there is the income gained by investor in form of dividends. This instrument can be used to diversify the portfolio and to reduce the overall risk of the portfolio as the correlation of this instrument is less with various other asset classes. Inflation and Exchange rates are the macroeconomic parameters that are the most efficient. This can be because if the inflation increases then there will be higher income and hence the returns in form of dividends will be higher.

There are many mutual funds schemes that have REIT/InvIT in their portfolios. Not only dividend and income based but many other schemes also consider these instruments in their portfolios. Since these instruments are less volatile the fund may consider this instrument to reduce their portfolio risk.

When different asset classes are considered, this instrument can be considered in the portfolio if the investor do not want to take more risk and want the regular income. If there are two portfolios one having REIT/INVIT as asset class and other having Infra stocks in the portfolio then the risk and return of portfolio with REIT/INVIT will be less with respect to portfolio with Infra Stocks.

For investors who want capital appreciation then this instrument should not be the preference but if the investor is looking for regular income, then this instrument can be considered to achieve their objective.

Current Development and News

Sebi decided to bring entities facilitating fractional investment in real estate under a regulatory framework, whereby they will be required to operate as Small and Medium Real Estate Investment Trusts Sebi plans to bring follow-on offer rules for REITs, InvITs.

Mutual fund houses have reportedly held talks with the capital markets regulator Sebi to urge for a dedicated category for real estate investment trusts (REITs) and infrastructure investment trusts (InvITs).

How Promoter Ownership and ESG Investing Affect Company Performance

Promoters are the people who establish or own a large share of a company and have a strong influence on its management and decision-making. The degree of promoters' ownership in a company is called promoters' concentration. This factor can have an impact on how well a company performs financially, as it indicates how much the promoters and the other shareholders share the same vision and goals, how good the corporate governance practices are, and how easy it is for the company to access external funding.

Another factor that can affect the financial performance of a company is the environmental, social, and governance (ESG) criteria, which are a set of standards that evaluate the sustainability and ethical impact of a company. ESG investing is a strategy that considers these criteria along with the financial performance of a company. ESG investing seeks to create positive social and environmental outcomes while also achieving competitive returns. ESG investing has become more popular and relevant among investors, regulators, and the public in recent years.

In this article, we will explore the relationship between promoter ownership patterns and profitability ratios and analyse how different promoter ownership structures affect the financial performance of ESG and Non-ESG companies. We will use a sample of companies from different sectors and regions that have different levels of ESG ratings and performance. We will use various methods and tools to collect and analyse the data and test the hypotheses. We will also explain the implications and limitations of the results and suggest directions for future research.

Promoter Ownership Patterns and Profitability Ratios

Promoter ownership patterns in public companies can vary widely, with some companies having a single dominant shareholder or a group of large shareholders who control the majority of the company's shares, while others have a more dispersed ownership structure with a large number of smaller shareholders. The promoter ownership structure can also be influenced by the company's size, industry, and corporate governance practices.

Profitability ratios are used to evaluate a company's financial performance and measure its ability to generate profits relative to its revenue, assets, and equity. In this article, we will include profit margin, current ratio, and asset turnover ratio of the Nifty ESG-100 Index and Nifty 200 companies and see if there is any type of relationship between them.

Profit margin is the ratio of net income to revenue, which indicates how much of the revenue is retained as profit.

Current ratio is the ratio of current assets to current liabilities, which indicates the liquidity and solvency of the company. Asset turnover ratio is the ratio of revenue to total assets, which indicates how efficiently the company uses its assets to generate revenue. We will compare the profitability ratios of ESG and Non-ESG companies and see if there is any difference between them. We will also examine how promoter ownership affects the profitability ratios of both ESG and Non-ESG companies.

We hypothesize that ESG companies will have higher profitability ratios than Non-ESG companies, as ESG investing can enhance the reputation, innovation, risk management, and stakeholder relations of the company, which can lead to higher profits, lower costs, and better performance. We also hypothesize that promoter ownership will have different effects on the profitability ratios of ESG and Non-ESG companies, depending on the level of promoter concentration and the quality of corporate governance.

On the one hand, promoter ownership can indicate the confidence and commitment of the promoters in the company's future prospects, and align the interests of the promoters and the shareholders, which can improve the profitability ratios of the company. On the other hand, promoter ownership can also cause agency problems, such as entrenchment, tunnelling, and expropriation, that can harm the interests of the minority shareholders and reduce the profitability ratios of the company.

We expect that promoter ownership will have a positive effect on the profitability ratios of ESG companies, as ESG investing can mitigate the agency problems and enhance the corporate governance practices of the company, which can increase the trust and cooperation between the promoters and the shareholders. We also expect that promoter ownership will have a negative effect on the profitability ratios of non-ESG companies, as non-ESG investing can exacerbate the agency problems and weaken the corporate governance practices of the company, which can create conflicts and inefficiencies between the promoters and the shareholders.

We use data from the Centre for Monitoring Indian Economy (CMIE) Prowess and NSE. The study period covers from 2016 to 2023. We compare the promoter, non-promoter institutional, and non-promoter non-institutional holding patterns of the Nifty 200 companies and Nifty ESG 100 companies. First, we identify the similar companies in the Nifty 200 and ESG 100 indices. Then we eliminate the ESG 100 index companies from Nifty 200. The variables and their codes are given in Table 1. After the data alignment, we have 83 ESG index companies and 112 Nifty 200 companies for which data on ownership and performance for 8 years are available. We use panel models to analyse the data and start with the panel unit root test to check the initial conditions. Then, we apply panel regression and choose between fixed effect and random effect model based on the data.

The results show that there is a connection between the two, with some variables like EPU, liquidity, firm size, and profitability being significant. For ESG companies, EPU has a negative relationship with promoter and institutional investment, while liquidity and firm size have positive relationships with all three types of holdings. Profitability has a negative relationship with promoter holdings and a positive relationship with the other two. For non-ESG companies, cash flow, sales growth, and leverage are the only significant variables. Cash flow has a negative relationship with promoter holdings and a positive relationship with the other two. Sales growth has a positive relationship with promoter holdings and a negative relationship with the other two. Leverage has a positive relationship with all three types of holdings. The study suggests that future research could expand the analysis to include more sectors and sub- periods, as well as examine the effects of different ownership structure subcategories.

ESG							
Variable	Model	P	NPI	NPNI	R2	F Test	Hausman Test
Investment	1	+	+	-	0.01	insg	R
Cashflow	2	+	+	+	0.13	insg	R
EPU	3	-	-	+	0.74	sig	F
Tobin's Q	4	-	-	+	0.00	insg	R
Sales Growth	5	+	-	-	0.04	insg	R
Liquidity	6	+	-	-	0.75	sig	F
Leverage	7	-	+	+	0.25	insg	R
Firm Size	8	+	+	+	0.69	sig	F
Firm Age	9	-	+	-	0.03	insg	F
Profitability	10	-	+	+	0.85	sig	F

Non ESG							
Variable	Model	P	NPI	NPNI	R2	F Test	Hausman Test
Investment	1	+	-	+	0.02	insg	R
Cashflow	2	-	+	+	0.61	sig	F
EPU	3	+	+	+	0.08	insg	R
Tobin's Q	4	-	-	-	0.01	insg	R
Sales Growth	5	+	-	-	0.86	sig	F
Liquidity	6	+	-	-	0.01	insg	R
Leverage	7	+	+	+	0.81	sig	F
Firm Size	8	+	+	+	0.04	insg	R
Firm Age	9	+	+	-	0.01	insg	R
Profitability	10	+	+	+	0.00	insg	R

Impact of Macro-economic Variables on the Performance of Indian Banking Sector

- KUNAL SUNIL KABARA

This research delves into the intricate relationship between macroeconomic variables and the performance of banks, with a specific focus on the Indian context. Recognizing the significant impact of macroeconomic factors on banks' profitability, risk exposure, and financial stability, the study aims to fill a knowledge gap by providing a comprehensive analysis. Unlike global studies that touch on this connection, few have specifically explored India, particularly concerning key financial metrics like Return on Equity (ROE), Return on Assets (ROA), Net Interest Margin (NIM), and Net Profit Margin (NPM).

The distinctive features of the Indian economy, marked by a history of economic reforms, a diverse banking system, and unique regional economies, necessitate a dedicated examination of how macroeconomic variables operate within this context. The study aims to shed light on how factors such as GDP growth, interest rates, currency exchange rates, inflation, and fiscal policies impact the financial performance of Indian banks. This understanding becomes crucial for tailoring country-specific insights, adapting risk management strategies, and formulating policies aligned with India's economic landscape.

Beyond academic curiosity, the research underscores its policy relevance. In a dynamic economy like India, policymakers and regulatory bodies require data-driven evidence to craft and refine banking policies in alignment with financial stability objectives and economic aspirations. The absence of a thorough analysis specific to Indian macroeconomic factors and their impact on financial indicators hampers informed decision-making in policy formulation.

Moreover, the study addresses the adaptability of the banking industry in India. With the country experiencing economic fluctuations, natural disasters, and global economic changes, it is imperative to comprehend how Indian banks navigate these challenges and adjust financial strategies, particularly in terms of ROE, ROA, NIM, and NPM.

Ultimately, the research aims to contribute to investor and stakeholder confidence in the rapidly growing Indian economy. By providing a deeper understanding of the connection between macroeconomic variables and specific financial metrics, the study seeks to empower decision-makers with reliable information. Additionally, it advocates for future-ready banking methods, emphasizing the need for banks to develop strategies that can withstand unforeseen economic shocks in the dynamic landscape of the Indian economy.

Table 1: Regression Analysis Results

	NIM	**ROA**	**ROE**	**NPM**
Intercept	0.031767	-15.1228	0.141086	90.05456
GDP	-0.01501	-0.01854	0.067158	0.048486
Inflation	0.138699	-0.41	6.868303	7.813146
Exchange Rate	0.000621	0.317932	-0.60388	-1.06075

Interest Rate	-0.06348	-0.46388	-1.22701	-4.19062
Unemployment Rate	-0.09696	-0.29161	-4.34746	-3.49651
Balance of Trade	-0.07164	0.361474	0.418121	-2.99579

The interpretation of the above analysis is as follows:

a) **For Net Interest Margin (NIM):**
From the data obtained after performing the regression analysis taking NIM as dependent variable and the macro-economic variables as independent variables we can get the following equation

$$NIM = 0.0317 - 0.015(\text{GDP}) + 0.139(\text{Inflation}) + 0.0006(\text{Exchange Rate}) - 0.063(\text{Int Rate}) - 0.0969(\text{Unemployment Rate}) - 0.0716(\text{Balance of Trade})$$

The equation shows that the GDP has grown but the NIMs of bank got suppressed during that period. NIMs of banks got increased following the increase in inflation & Exchange rate. Rest of the factors like Interest rate, unemployment rate & Balance of Trade affected the NIM negatively during the period 2017-23.

b) **For Return on Asset (ROA):**

From the data obtained after performing the regression analysis taking ROA as dependent variable and the macro-economic variables as independent variables we can get the following equation

$$ROA = -15.12 - 0.018(\text{GDP}) - 0.41(\text{Inflation}) + 0.317(\text{Exchange Rate}) - 0.464(\text{Int Rate}) - 0.2916(\text{Unemployment Rate}) + 0.36(\text{Balance of Trade})$$

The above equation shows that the GDP growth, Inflation has affected the banking sector R3OA negatively. Whereas the exchange rate and the balance of trade shows the positive relationship with the ROA during the period. Also the Interest rates and the unemployment rate affected the ROA in negative way during same period i.e. 2017 to 2023.

c) **For Return on Equity (ROE):** From the data obtained after performing the regression analysis taking ROE as dependent variable and the macro-economic variables as independent variables we can get the following equation

$$ROE = 0.14 + 0.067(\text{GDP}) + 6.868(\text{Inflation}) - 0.603(\text{Exchange Rate}) - 1.22(\text{Int Rate}) - 4.347(\text{Unemployment Rate}) + 0.418(\text{Balance of Trade})$$

From the above equation, obtained after performing the regression analysis keeping the ROE as dependent variable and the macro-economic variables as the independent variables we can infer that the GDP growth, Inflation, Balance of Trade are showing the positive impact on the ROE of banks during the period under the consideration. Whereas the Exchange rate, Interest rate & unemployment rate are affecting the ROE negatively during the period 2017 to 2023.

d) For Net Profit Margin (NPM):

From the data obtained after performing the regression analysis taking NPM as dependent variable and the macro-economic variables as independent variables we can get the following equation

$$NPM = 90.05 + 0.048(\text{GDP}) + 7.81(\text{Inflation}) - 1.06(\text{Exchange Rate}) - 4.19(\text{Int Rate}) - 3.49(\text{Unemployment Rate}) - 2.99(\text{Balance of Trade})$$

The above results from the regression analysis shows that the NPM of the banks had positive impact from the GDP growth and rise in inflation. Whereas, the Exchange rate, Interest rate, unemployment rate & the balance of trade affected the net profit margins of the banks in the period 2017-23.

Table 2: Correlation Analysis Results

	NIM	***ROA***	**ROE**	***NPM***
GDP	-0.20134	-0.28211	-0.09165	-0.01887
Inflation	0.816796	0.577193	0.677884	0.771315
Exchange Rate	0.380321	0.373137	-0.23884	-0.05232
Interest Rate	-0.27284	-0.4857	-0.48242	-0.46794
Unemployment Rate	0.082725	0.054524	0.032726	0.127526
Balance of Trade	-0.18709	-0.07888	0.173521	0.0542

Interpretation of the above analysis is as follows:

a) For Net Interest Margin:

As shown in the above table, The NIM is showing weak negative correlation with the GDP with the magnitude of 0.2. Inflation is strong positively correlated with the NIM to the tune of 0.81 while the exchange rate shows moderate correlation of 0.38. Interest rates and balance of trade shows weak negative correlation as 0.27 & 0.18 respectively. Whereas, Unemployment is weak positively correlated with NIM during the period 2017 to 2023.

b) For Return on Asset:

In the table shown above, The ROA is weak negatively correlated for the magnitude of 0.28, while the inflation and exchange rate are moderate positively correlated with 0.57 & 0.37 respectively. Interest rate is moderate negatively correlated for the magnitude of 0.48. The unemployment rate and the balance of trade shows very weak correlation with return on asset for the period under consideration.

c) For Return on Equity:

From the table of the correlation analysis shown 3above, we can infer that ROE is strongly positive correlated with the inflation with the magnitude of 0.67 while moderate negatively correlated with interest rate as 0.48. Exchange rate is moderate negatively correlated with ROE for magnitude of 0.24. GDP and unemployment rate does not show significant correlation with return on equity while balance of trade is weak positive correlated for the magnitude of 0.174 in the period 2017-23.

d) For Net Profit Margin:

The results obtained from the correlation analysis shows that there is strong positive relationship between inflation and net profit margin of the magnitude 0.77 and is moderate negatively correlated with interest rate as 0.46. GDP, Exchange rate & balance of trade shows insignificant relation with NPM whereas the unemployment rate shows weak positive correlation of the magnitude 0.12 in the same period under consideration.

This article outlines the below findings along with the above mentioned analysis

The overall macroeconomic climate in which financial institutions, especially banks, operate has a significant impact on how well they perform. Banks are significantly impacted by the volatility and dynamics of many macroeconomic variables in addition to their own strategies and operations in a constantly shifting economic environment. The goal of this study project was to explore the many facets of the relationship between macroeconomic factors and bank performance. It looks at how changes in economic growth, interest rates, inflation, currency rates, and other important macroeconomic factors affect banks' financial metrics as well as their ability to withstand economic hardship. The objective of this was to gauge the impact of certain macro-economic variables on the performance of the Indian banking sector. The macro- economic indicators and bank performance parameters are taken as described in the above sections. The data for the banks consists of 5 major public sector banks & 5 private sector banks, average is being taken for the analysis purpose. The period under consideration is from year 2017 to 2023 in order to see impact post demonetization i.e. 2016.

The regression analysis and the correlation analysis are performed to test impact of macro-economic variables and to understand the relationship between them respectively during the period under consideration. The results of this tests have been discussed in the above mentioned section in detail. It has also been observed that the financial performance of the private sector banks is improving since 2017 while that of public sector banks started improving after the year 2020. Public sector banks were not performing due to the matters related to NPAs and corporate governance issues at their end which causes financial turmoil for them. Due to this reason despite private sector banks performing well during the period public sector banks initially supressed the performance of whole banking industry taken into consideration, which is also validated from the statistical analysis used above as the volatility in the performance parameters of banks was recorded due to the above mentioned issues.

Liquidity Risk in Indian sovereign Bond Funds and Risk Management Strategies

-Bharat Rachuri

Sovereign bond funds have long been considered a stable investment option, especially in emerging economies like India. Investors often seek refuge in government-backed securities for their perceived safety and predictable returns. However, recent trends suggest that liquidity risks in Indian sovereign bond funds are on the rise, posing potential challenges for investors. In this article, we delve into the factors contributing to the increasing illiquidity and explore risk management strategies supported by relevant data.

Understanding Liquidity Risk:

Liquidity risk refers to the possibility of being unable to buy or sell an asset without significantly affecting its price. In the context of Indian sovereign bond funds, this risk arises when there is a scarcity of buyers or sellers in the market, leading to wider bid-ask spreads and potential price slippage.

Factors Contributing to Increasing Illiquidity:

Market Dynamics: The Indian bond market is influenced by various factors, including changes in interest rates, inflation expectations, and global economic conditions. Shifts in these variables can result in market participants adjusting their portfolios, leading to fluctuations in bond prices and reduced liquidity.

Fiscal concerns: Increasing government debt and widening fiscal deficit have raised concerns about India's ability to repay its obligations, leading to higher risk perception and reduced demand for sovereign bonds.

Interest rate volatility: Rising interest rates in India and globally have made bond investments less attractive, leading to selling pressure and reduced liquidity.

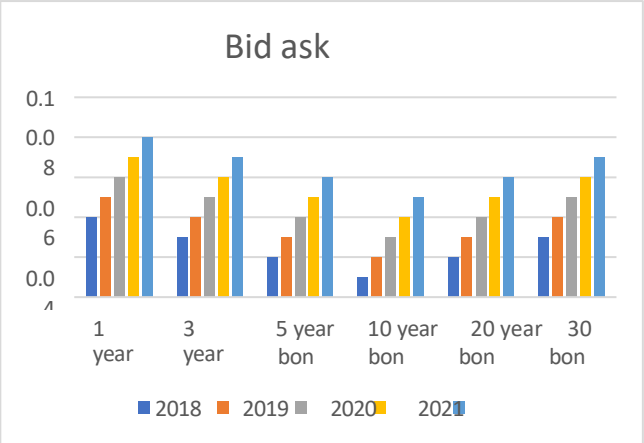
Market concentration: A limited number of institutional investors dominate the Indian sovereign bond market, making it susceptible to sudden shifts in sentiment and liquidity challenges.

Regulatory Changes: Regulatory measures aimed at addressing specific concerns, such as market manipulation or excessive volatility, can inadvertently impact market liquidity. Recent regulatory changes may have altered the trading dynamics in the sovereign bond market, contributing to increased illiquidity.

Global Economic Uncertainty: The interconnectedness of global financial markets means that developments in international markets can have spillover effects on India's sovereign bond market. Uncertainty in global economic conditions can lead to risk aversion among investors, reducing liquidity in emerging market bonds.

Data Analysis:

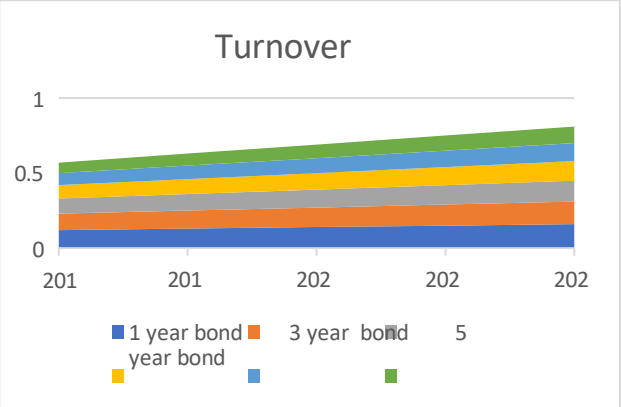
To substantiate the claim of increasing illiquidity in Indian sovereign bond funds, let's examine relevant data:



Bid-Ask Spreads:

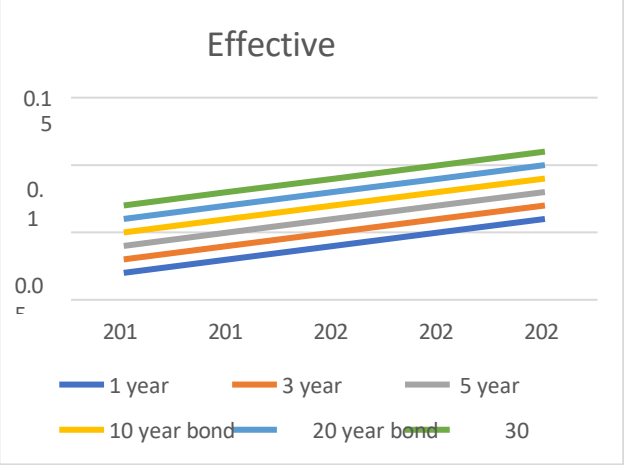
Widening bid-ask spreads are indicative of reduced liquidity. Historical data analysis of bid-ask spreads in Indian sovereign bond funds can reveal trends and highlight periods of
increased illiquidity.

Turnover Ratio:



The turnover ratio measures the annual trading volume of a bond relative to its outstanding value. A lower turnover ratio indicates lower liquidity, suggesting fewer transactions and potential difficulty in finding counterparties to execute trades.

Effective Spread:



The effective spread represents the actual price impact of trading a bond, considering both the bid-ask spread and the transaction costs involved. A higher effective spread implies greater liquidity risk, as it increases the total cost of executing trades.

Overall, the data suggests that liquidity in the Indian government bond market has been decreasing over the past five years. This is a concern, as it could make it more difficult for investors to buy and sell bonds and could lead to increased volatility in bond prices.

Risk Management Strategies:

Maturity-Based Diversification involves spreading investments across bonds with different maturity dates to reduce concentration risk and enhance overall liquidity. Investing in Liquid Benchmark Indices, like the Nifty Government Bond Index, aligns the portfolio with highly liquid bonds, improving marketability. Active management focuses on sovereign bonds with strong credit ratings, issuer profiles, and trading volumes to minimize exposure to illiquid assets.

Maintaining an Adequate Cash Reserve serves as a buffer for unexpected redemptions or liquidity issues. Regular Stress Testing helps identify potential liquidity concerns in various adverse scenarios, allowing for proactive risk mitigation. Derivatives, such as futures contracts, can be used to hedge against liquidity risk by setting predetermined asset prices.

Effective communication with investors during liquidity stress is crucial. Comprehensive Contingency Planning outlines procedures, triggers, and communication protocols for managing operations during liquidity interruptions. Monitoring Regulatory Changes is essential to adapt strategies and ensure compliance with evolving regulations.

Continuous Market Research involves staying informed about market trends, economic conditions, and investor sentiment, enabling fund managers to anticipate and address potential liquidity challenges.

Conclusion:

The data analysis supports the observation that liquidity risks in Indian sovereign bond funds are indeed increasing. Investors and fund managers must be vigilant in understanding the underlying factors contributing to this trend and implement robust risk management strategies. As the bond market landscape continues to evolve, proactive measures will be crucial in navigating the challenges posed by liquidity risk and ensuring the resilience of sovereign bond funds in the Indian financial market.

Performance and Evaluation of Different Sectoral Mutual Fund Schemes In India

-Akansha Gaikwad

Introduction

A mutual fund is a type of financial instrument that pools money from investors to buy stocks, bonds, gold, and different assets. Companies that are eligible to establish mutual funds establish Asset Management Companies (AMCs) or Fund Houses, which collect investor cash, promote mutual funds, handle investments, and facilitate investor transactions.

Mutual funds are managed by fund managers, that possess experience and expertise in assessing and handling investments. According to the investment objective of the mutual fund, the money raised from investors is invested by the fund managers in a variety of financial assets, including stocks, bonds, and other assets. The fund managers are in control of many activities, such determining the best times and places to put money in.

Objective and Aims

To understand the concept and objective of sectoral funds

1. To assess the realized return relative to expected return and to gauge risk- adjusted performance through considerations of overall volatility, systematic risk, and downside volatility.
2. To see whether the scheme is under performing or over performing compare with the benchmark
3. To determine the consistent yearly growth rate of an investment over a defined time frame.
4. To know which is better scheme in the sector.
5. To access fund performance based on Fund Manager Experience and Expense ratio.

Banking Sector

A "Banking Sector Mutual Fund" is a kind of financial investment vehicle whose portfolio is focused on businesses in the financial services sector. Thus, the portfolio trades largely in stocks, bonds, and other assets produced by commercial banks, investment banks, and other financial institutions.

Selected schemes in Banking Sector

ICICI Prudential Banking and Financial Services Fund - Direct Plan -Growth, Nippon India Banking & Financial Services Fund-Growth, UTI Banking and Financial Services Fund Growth, TATA Banking and Financial Services Fund Growth.

Benchmark: S&P BSE Bankex Index

Expense Ratio: A number of factors determine whether an expense ratio is considered high or low. A good expense ratio, from the investor's viewpoint, is around 0.5% to 0.75% for an actively managed portfolio. An expense ratio greater than 1.5% is considered high.

TATA Banking and Financial Services Fund Growth stands out with the lowest expense ratio at 0.55%, presenting a cost-effective option for investors.

Fund Managers Experience: Like a seasoned captain navigating turbulent seas, an experienced fund manager leverages years of market understanding, skilfully averting pitfalls and capitalizing on opportunities. Their historical performance, while not a crystal ball, provides a lens into their investment acumen.

Each fund benefits from experienced managers with noteworthy track records, providing investors with seasoned expertise in navigating the dynamic financial services sector.

Ratios and Insights: TATA Banking and Financial Services Fund Growth emerges as the top performer across Sharpe Ratio, Jensen's Alpha, Treynor Ratio, and Sortino Ratio, reflecting superior risk-adjusted returns.

Pharma Sector

A "Pharma Sector Mutual Fund" is a type of investing vehicle that invests in firms in the healthcare and pharmaceutical sectors. This specialised mutual fund mainly deals in stocks, bonds, or other kinds of assets produced by pharmaceutical, biotechnology, healthcare, and comparable industries.

Selected schemes in Pharma Sector

TATA India Pharma & Healthcare Fund, Nippon India Pharma Fund Growth, UTI Healthcare Fund Growth, SBI Healthcare Opportunities Fund Growth.

Benchmark: S&P BSE Healthcare Index

Expense Ratio: TATA India Pharma & Healthcare Fund emerges as the most cost- effective choice with the lowest expense ratio at 0.94%, offering investors an efficient and economical option.

Fund Managers Experience: Each fund benefits from the leadership of experienced managers, with notable track records spanning decades in the healthcare and pharmaceutical sectors.

Ratios and Insights: TATA India Pharma & Healthcare Fund and Nippon India Pharma Fund Growth exhibit superior performance across multiple ratios, showcasing their prowess in delivering consistent returns with controlled risk.

Technology Sector

A "Technology Sector Mutual Fund" is an instance of investing vehicle that invests mostly in enterprises in the information technology sector. This specialised mutual fund focuses in stocks, bonds, or other kinds of debt produced by technology companies, such as individuals engaged in creating software, equipment production, connectivity, and various associated sectors.

Selected schemes in Technology Sector

Franklin India Technology Fund Growth, ICICI Prudential Technology Fund Growth, SBI Technology Opportunities Fund Growth, TATA Digital India Fund Growth.

Benchmark: S&P BSE IT Index

Expense Ratio: TATA Digital India Fund emerges as the most cost-effective choice with the lowest expense ratio at 0.33%, offering investors a financially efficient option.

Fund Managers Experience: Seasoned fund managers, each with over a decade of experience, lead the helm, ensuring expertise in navigating the dynamic technology landscape.

Ratios and Insights: SBI Technology Opportunities Fund and TATA Digital India Fund showcase stronger Sharpe Ratio and Jensen's Alpha, emphasizing their superior risk-adjusted returns.

Infrastructure Sector

An "Infrastructure Sector Mutual Fund" is a kind of financing vehicle that focuses its investments on infrastructure-related enterprises. This industry frequently encompasses companies that design, build, and maintain critical tangible and organisational frameworks like highways, power plants, technological infrastructure, including services.

Selected schemes in Infrastructure Sector

Bandhan Infrastructure Fund-Direct Plan-Growth, Franklin Build India Fund Growth, Nippon India Power and Infra Fund Growth, DSP BlackRock India T.I.G.E.R Fund Growth.

Benchmark: S&P BSE India Infrastructure Index

Expense Ratio: Franklin Build India Fund emerges as the most cost-effective option with the lowest expense ratio at 0.92%, making it an attractive choice for investors.

Fund Managers Experience: Fund managers bring substantial experience ranging from 13 to 17 years, underscoring their seasoned expertise in steering these funds.

Ratios and Insights: Franklin Build India Fund outperforms in Sharpe Ratio, Jensen's Alpha, Treynor Ratio, and Sortino Ratio, indicating superior risk-adjusted returns.

Consumer Trends

A "Consumer Trends Sector Mutual Fund" might almost certainly be a mutual fund which invests in enterprises in the end-user items and offerings sector, having an accent on recognising and capitalising on existing and developing consumer trends.

Selected schemes of Consumer Trends

Canara Robeco Consumer Trends Fund – Direct Plan – Growth Option, ICICI Prudential FMCG Fund - Direct Plan -Growth, Mirae Asset Great Consumer Fund - Direct Plan – Growth, Tata India Consumer Fund-Direct Plan-Growth

Benchmark: S&P BSE 500 Index

Expense Ratio: Mirae Asset Great Consumer Fund emerges as the most cost- effective option with the lowest expense ratio (0.39%).

Fund Managers Experience: Experienced fund managers ranging from 7 to 15 years bring a wealth of expertise to the table.

Ratios and Insights: Canara Robeco Consumer Trends Fund leads in Sharpe, Treynor, and Sortino Ratios, emphasizing superior risk-adjusted returns.

Mirae Asset Great Consumer Fund shines with the highest Jensen's Alpha, signalling excellent risk-adjusted performance.

Conclusion

Tata Banking & Financial Services, Pharma & Healthcare, and Digital India Funds exhibit consistent outperformance, lower expense ratios, and superior ratios in their respective sectors. Franklin Build India Fund excels in Infrastructure with identical high returns and lower expenses. Canara Robeco Consumer Trends Fund displays superior returns and ratios, while Mirae Asset Great Consumer Fund emphasizes a lower expense ratio and higher Jensen's Alpha Ratio.

The Impact of Interest Rates on Bank Stock Returns

-Piyush Kumar

Introduction:

Interest rates are one aspect of the ever-changing financial markets that has a significant impact on bank stock performance. The interest rates that central banks set have a significant impact on the borrowing and lending practices of financial institutions, hence influencing the overall economic landscape. The complex relationship between interest rates and bank stock returns is examined in this essay, which also clarifies how changes in these rates might have an impact on the financial industry.

The Basics of Interest Rates and Banking:

Interest rates function as both the cost of borrowing and the return on savings, making them an essential part of the financial system. Interest rates are a tool used by central banks, like the US Federal Reserve and the European Central Bank, to manage inflation, promote economic expansion, and uphold financial stability. Interest rates present banks with both opportunities and difficulties. The cost of borrowing goes up for both individuals and businesses when interest rates rise, which boosts banks' interest revenue. On the other hand, as rates drop, borrowing becomes less expensive, but interest income could also drop.

Interest Rates and Net Interest Margin:

One of the most important metrics for banks is the net interest margin (NIM), which is the difference between the interest paid on deposits and the interest collected on loans. grasp the influence on bank profitability and, by extension, stock returns, requires a grasp of the link between interest rates and NIM. Banks frequently see an increase in their NIM when interest rates rise because they are able to charge higher loan interest rates. This may lead to more profitability, which in turn may encourage investors' optimism and raise stock prices. On the other hand, a drop in interest rates can compress NIM, which would strain profitability and make the outlook for bank stocks less positive.

Credit Risk and Interest Rates:

Rising interest rates present risks for banks in terms of credit risk, even if they can be advantageous for net interest margin. Borrowers incur greater expenditures as interest rates rise, which could result in a rise in loan defaults. This credit risk may have a negative effect on bank stock returns and counteract the beneficial effects of higher interest rates on net interest margin.

Economic Context and Monetary Policy:

When evaluating the effect of interest rates on bank stock returns, it is imperative to comprehend the wider economic environment. Interest rate changes by central banks are a response to the state of the economy, and choices about monetary policy can ripple across the financial system. Central banks may increase interest rates during periods of economic expansion in an effort to tame inflation and avoid overheating. This can be good news for bank stocks because it indicates a robust economy and could lead to increased interest income. On the other hand, in times of economic recession, central banks would cut interest rates in an effort to boost the economy. While this could help borrowers, it would also make it harder for banks to be profitable.

Conclusion:

Interest rates and bank stock returns have a complex relationship that is influenced by a number of variables. To make wise selections, financial sector investors need to keep a close eye on economic data, central bank policy, and the general interest rate landscape. The way that interest rates affect bank stocks is a complex balance; in the dynamic realm of finance, the way that net interest margin, credit risk, and general economic conditions interact determines the success of financial organisations.

Impact of Green Bond Issuance on Stock Market Performance

-Preeti Pandey

Green bonds, a specialized category of fixed-income financial instruments, play a pivotal role in mobilizing capital for projects with positive environmental impacts. Governments, municipalities, corporations, and various entities issue these bonds to fund initiatives that contribute to sustainability, address climate change, and promote environmental well-being. The first green bond issuance is credited to the European Investment Bank in 2007, marking the inception of the green bond market. Distinctive features characterize green bonds, such as the earmarking of proceeds for environmentally friendly projects, issuer diversity spanning governments to businesses, adherence to certification standards like the Climate Bonds Standard and Green Bond Principles (GBP), and a commitment to transparency in reporting. Investors, increasingly drawn to socially conscious and sustainable investments, fuel the market's growth, seeking opportunities that align with their environmental values. Green bonds fund diverse projects including renewable energy, energy efficiency, sustainable transportation, green buildings, waste management, and conservation. The market has witnessed significant expansion in recent years, marked by increased issuer and investor diversity. Innovative financial instruments tied to sustainability have emerged, with financial terms contingent on meeting predefined sustainability criteria. However, challenges persist, notably the need for a globally standardized framework for green finance and concerns about "greenwashing," where issuers misrepresent environmental benefits. Efforts are ongoing to enhance consistency and comparability in reporting and verification, emphasizing third-party verification and adherence to established standards. Government initiatives contribute to the market's growth, with regulators implementing policies, tax incentives, and legal frameworks to support the issuance of green bonds. Sovereign green bonds, issued by governments to fund eco-friendly initiatives, serve as models for others in the market. In the broader context of sustainable finance, green bonds are integral to the shift toward a low-carbon and environmentally friendly economy. Their expansion reflects the increasing importance of aligning financial objectives with environmental stewardship in the global pursuit of sustainable development.

The analysis of abnormal returns (AR) and cumulative average returns (CAR) for several prominent Indian banks, including State Bank of India (SBI), Adani Green Energy, Axis Bank, IDBI Bank, and Yes Bank, provides valuable insights into the complex relationship between green bond issuance and stock market performance.

State Bank of India (SBI):

- SBI's abnormal returns exhibit a mix of positive and negative values, indicating periods of both outperformance and underperformance compared to market expectations. The magnitudes of abnormal returns are relatively modest, suggesting that the deviations from expected returns are not extreme. The consistency in the fluctuation of abnormal returns over time underscores the importance of assessing the stability of SBI's performance.
- The cumulative average returns for SBI reveal a concerning trend of consistent decline, reflecting an overall negative performance during the observed periods. The negative values and downward trend indicate a sustained period of losses, raising questions about the effectiveness of SBI's sustainability initiatives and the need for strategic adjustments.

Adani Green Energy:

- Adani Green Energy's abnormal returns demonstrate a mix of positive and negative values, indicative of varying performance compared to market expectations. The magnitudes of abnormal returns, with the highest at 0.047402154 and the lowest at -0.031021412, suggest both significant positive and negative deviations. Positive abnormal returns, particularly around the time of green bond issuance, may reflect a positive market response to the company's commitment to sustainability.
- The cumulative average returns for Adani Green Energy showcase a predominantly positive trend, emphasizing overall gains. The fluctuations in cumulative returns, both positive and negative, highlight the volatility in the company's performance. Positive cumulative returns are generally aligned with positive investor sentiment, potentially influenced by the green bond issuance.

Axis Bank:

- Axis Bank's abnormal returns exhibit a mix of significant positive and negative deviations from expected returns. The magnitudes of abnormal returns vary, indicating fluctuations in performance. Analysing the correlation between abnormal returns and the issuance of green bonds is crucial for understanding the impact of sustainability initiatives on market perception.

- The consistent negative cumulative returns for Axis Bank suggest a prolonged period of underperformance. Negative investor sentiment, reflected in the consistent decline, emphasizes the need for a comprehensive evaluation of the effectiveness of the green bond issuance strategy and potential areas for improvement.

IDBI Bank:

- IDBI Bank's abnormal returns display both positive and negative values, reflecting periods of overperformance and underperformance. The magnitudes of abnormal returns vary significantly, emphasizing the need for a nuanced understanding of the factors influencing market response.

- The mixed trend in cumulative average returns for IDBI Bank, transitioning from negative to positive, suggests a potential recovery. The positive cumulative returns indicate gains, but a closer examination of specific events and communication strategies is necessary to ascertain the reasons behind the observed performance patterns.

Yes Bank:

- Yes Bank's abnormal returns show a distribution of both positive and negative values, indicating varying performance compared to market expectations. The magnitudes of abnormal returns suggest a mix of moderate and significant deviations.
- The fluctuating trend in cumulative average returns for Yes Bank signifies periods of both gain and loss. Exploring the correlation between specific events or communication strategies and significant returns is essential for understanding investor perceptions and market dynamics.

➢ **General Insights:**

- The cumulative analysis of the studied banks reveals the diverse impact of green bond issuance on stock market performance. Positive abnormal returns around the time of issuance, particularly when sustained over the long term, can signify a positive market response. Conversely, consistent negative cumulative returns highlight potential challenges or gaps in the implementation of sustainability initiatives.

- In conclusion, the study emphasizes the need for companies to strategically align green bond issuance with comprehensive sustainability practices. Positive market responses are contingent not only on the issuance itself but also on transparent communication, effective execution of sustainability initiatives, and the ability to adapt to evolving market dynamics. Continuous monitoring and strategic adjustments are vital for ensuring the long-term success of green bond initiatives in positively influencing stock market performance.

Analyzing the Impact of Crude Oil on Sectoral Growth Funds in the Indian Mutual Fund Landscape

-Raghav Garg

Mutual funds play a pivotal role in the investment landscape, offering investors a diversified and professionally managed portfolio. One intriguing aspect of mutual funds is thecategorization into various sectors, each focusing on specific industries or themes. In this article, we delve into the impact of crude oil returns on individual sectoral growth funds in the Indian mutual fund market over a span of 5 years.

A mutual fund is essentially a collective investment scheme managed by certified fund managers. Investors pool their money, and the fund manager strategically invests in a variety of securities, such as stocks, bonds, and short-term debt. The holdings of a mutual fund, referred to as its "portfolio," represent the combined investments of its participants. The returns generated from this shared investment are distributed among investors after deducting relevant costs and levies, calculated using the Net Asset Value (NAV).

Several attractive characteristics contribute to the popularity of mutual funds among investors, including expert management, diversification principles, cost-effectiveness, and liquidity. The mutual fund market is diverse, offering various types such as target date funds, money market funds, bond funds, and stock funds, each catering to different investment needs.

Sectoral funds, a subtype of equity mutual funds, concentrate on investing in businesses within a particular industry or sector. Notable sectors for such funds include technology, healthcare, energy, financial services, and consumer goods. Unlike diversified equity funds that spread investments across various sectors, sectoral funds operate by allocating all their capital to stocks of businesses within a designated industry.

Our study aims to evaluate the impact of crude oil returns on the performance of sectoral growth funds in India over a 5-year period. We focus on three major sectors: banking, infrastructure (infra), and consumption.

The analysis considers NAV Non Corporate (Rs) of all listed growth funds in the banking sector.The Pearson's correlation coefficient shows a significant positive relationship between NAV and WtI Crude Oil.The regression model indicates a positive impact of crude oil on banking sectoral growth funds, with a correlation coefficient (R = 0.712) and slope (0.738).

Growth funds from the infra sector, including ICICI Pru Infrastructure Fund, DSP India T.I.G.E.R Fund-Reg, and others, are considered.The Pearson's correlation coefficient between Infra Sector NAV NonCorporate (Rs) and WtI Crude Oil is significant.The regression model for Infra Sector NAV NonCorporate (Rs) on WtI Crude Oil explains 49.0% of the total variation, indicating a significant positive impact.

Consumption Sector:

Growth funds selected from the consumption sector, such as Aditya Birla SL India GenNext Fund and Mirae Asset Great Consumer Fund-Reg, are included. The Pearson's correlation coefficient between consumption sector NAV Non Corporate (Rs) and WtI Crude Oil is significant. The regression model for consumption sector NAV Non Corporate (Rs) on WtI Crude Oil explains 43.8% of the total variation, indicating a significant positive impact.

Thoroughly examining the industry's present situation, growth possibilities, and potential hazards is crucial before investing in sectoral funds. Investors should base financial decisions on reliable information.

Even within a specific industry, sectoral funds should offer some degree of variety to reduce risk .A well-diversified portfolio is essential for risk management. Consider the time horizon for investment, as sectoral funds may exhibit short-term volatility. Longer-term investors may benefit more from sectoral funds.

Evaluate the fund's expense ratio and related fees.High fees can impact earnings over time, making it essential to consider cost-effectiveness.

Sectoral funds, despite their inherent risks, embody the core potential of a specific theme. These funds allow investors to capitalize on the growth potential of a particular industry. However, understanding the economic cycle and the specific stage of a sector before investing is crucial. Certain sectors, like pharmaceuticals and IT, exhibit long-term growth potential, but timing entry and exit points is essential.

In conclusion, the impact of crude oil on sectoral growth funds in India varies across different industries. Our analysis reveals a positive correlation between crude oil returns and NAVs of banking, infrastructure, and consumption sectoral funds. However, investors must exercise caution and conduct thorough research before venturing into sectoral funds. The inherent risks associated with these funds require a careful evaluation of industry dynamics, diversification within the sector, investment horizon, and fees. While sectoral funds offer a focused approach to specific industries, investors should align their investments with well-defined objectives and seek professional guidance for optimal decision-making.

An economic study of select metal market for constructing optimal portfolios

-Rakshith Sharma

Introduction

The project aims to study a sample of two precious metals namely gold and silver and two base metals, copper and aluminium that are found to be significant in the Indian context. This study will help users to understand basic characteristics of these commodities and how they are relevant for industry and for investment. It will also help users in identifying the economic fundamentals impacting the prices of these metals. Gold is known to be a safe heaven commodity which has an immense significance in the Indian context both economically and socially. Silver is also viewed as a precious metal and majorly used in jewellery and utensils. This is however, different from the global context in which silver is used majorly for industrial purpose. Copper has a wide range of applications starting from electric wires to aircrafts. Copper is considered the most sensitive metal to economic changes. It can sometimes also act as a forward indicator for economic projections.

Aluminium is the third most abundant metal in the world. It is widely consumed by the households for a variety of purposes. Hence it is highly significant in the economic as Aluminium consumption can act as a proxy for Aggregate demand. Aluminium's direct involvement in the manufacturing of capital goods makes it a significant element in the economic activity. Currently, SEBI has allowed mutual fund, AIF (category 3) and PMS managers to invest and trade in ETCD up to 30% of their NAV with certain constraints with respect to physical delivery. All regular mutual fund schemes can allocate up to 10% of their NAV into ETCD and hybrid funds can do so up to 30%.

Portfolio results

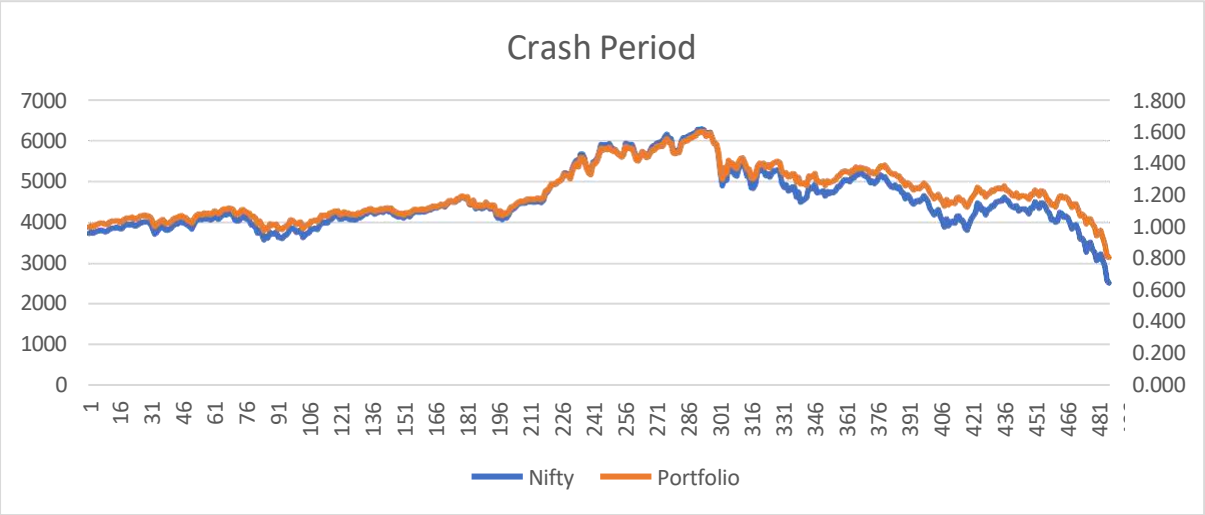
Crash period

Asset performance

Particulars	gold	Silver	Copper	Aluminium	nifty
Weights	9.98%	43.13%	13.19%	0.00%	33.70%
Daily average returns	0.11%	0.17%	0.16%	0.02%	0.18%
Absolute returns	64.85%	119.80%	84.63%	-1.34%	122.93%
standard deviation	1.09%	1.53%	2.57%	1.96%	1.93%

Portfolio performance

Performance measure	Crash
Market returns	**-32.50%**
Portfolio absolute Returns	-19.03%
Portfolio average daily returns	-0.03%
Standard deviation of portfolio	1.64%
Sharpe ratio	-0.031
Market Sharpe ratio	-0.037
Beta	0.768
Treynor ratio	-0.094
Sortino ratio	-5.610
Tracking difference	13.46%
Tracking error	0.27%



Recovery period

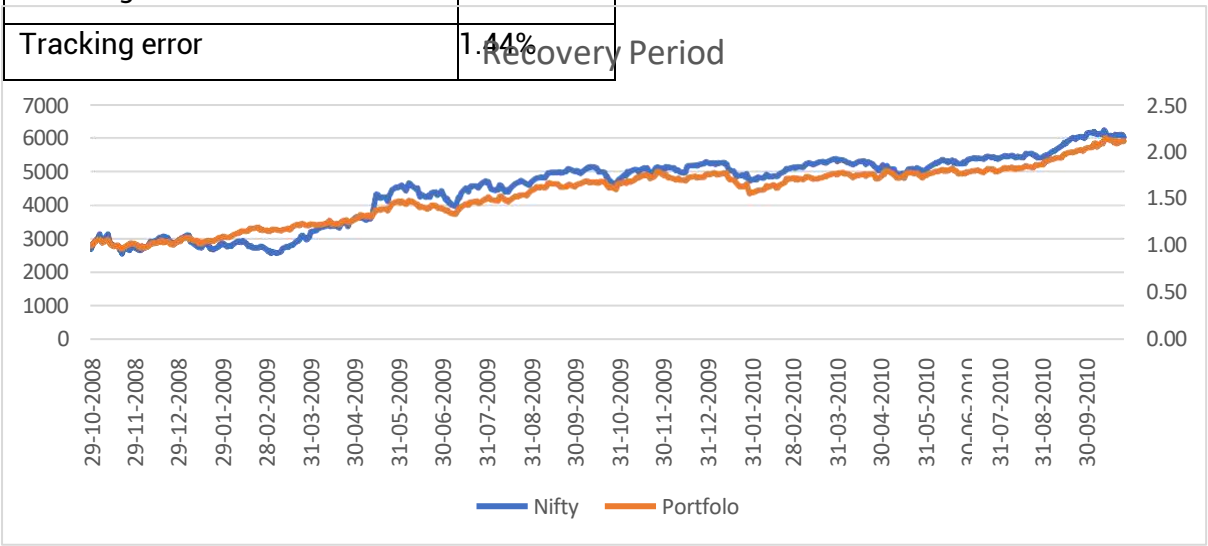
Asset performance

Particulars	**gold**	**Silver**	**Copper**	**Aluminium**	**nifty**
Weights	9.98%	43.13%	13.19%	0.00%	33.70%
Daily average returns	0.11%	0.17%	0.16%	0.02%	0.18%
Absolute returns	64.85%	119.80%	84.63%	-1.34%	122.93%
standard deviation	1.09%	1.53%	2.57%	1.96%	1.93%

Portfolio performance

Performance measure	**Recovery**
Market returns	**122.93%**
Portfolio absolute Returns	110.74%
Portfolio average daily returns	0.17%
Standard deviation of portfolio	1.17%
Portfolio Sharpe ratio	0.111
Market Sharpe ratio	0.075
Beta	0.406
Treynor ratio	0.003
Sortino ratio	0.109

Tracking difference	-12.20%
Tracking error	1.44%



Conclusions

Portfolio management is a continuous and a dynamic process. A portfolio once created is continuously monitored and periodically rebalanced to suit the market conditions. The scope of this project was to compare four commodities, essentially four metals for using as a best diversifier during the market crash and the recovery phases. The rebalancing of portfolios has not been considered in the project and it was assumed that once a portfolio is created, an investor will hold on to it during the market crash. Also, the behaviour of each asset class considered in the project is studied for both the crash and the recovery phases.

Gold has proven to be the best diversifier for in all the three scenarios. Especially during the crash, if the constraint of 80% minimum equity is lifted, the optimizer allocates the entire portfolio into gold.

The portfolios created for optimizing the Sharpe ratio compromises on absolute returns compared to nifty index as it can be seen in the scenario 2. However, a portfolio created on such lines also had a lesser absolute loss than nifty index as seen in scenario 2 and 3.

The portfolios obtained also have a beta of lower than 1. This means other than better risk adjusted returns, diversification also brings a lower volatility.

Gold has a long horizon negative correlation with nifty index. However, even though silver is highly correlated with gold, it did not qualify as a good diversifier as it has a positive correlation with nifty index. Silver is however more volatile than gold and saw short term swings more than gold. This makes silver a good choice for speculators and traders.

Similarly, copper and aluminium also did not act as good diversifiers since they have a low positive correlation with nifty. Both the commodities are also volatile as compared to gold and nifty which makes them a good choice for traders.

Therefore, portfolio managers can interpret the above analysis and results to create portfolios to brace themselves during the crisis and take the best advantage during the recovery.

According to the above results, It is suggested that the portfolio managers at any time have at least 12% to 15% of their portfolio invested in gold for hedging as well as for better returns. Silver performed best in the recovery phase and therefore, it can be considered for enhancing absolute returns during phases of economic recovery. Copper and aluminium are highly volatile and have a lot of economic implications hence, it is best if fund managers consider them for taking short term positions and profiting from temporary movement they make than considering them for long term investment.

Performance Analysis & Evaluation of REITs in India

-Vishwesh C. Deshmukh

Introduction:

Real Estate Investment Trusts (REITs) have become a global phenomenon, providing investors with a unique avenue to participate in the real estate market without the complexities of property management. According to the National Association of Real Estate Investment Trusts (NARIET), a REIT is a company that owns, operates, or finances income-producing real estate. This article delves deeper into the intricacies of REITs in India, the United States, and Singapore, examining their market landscapes, regulatory frameworks, and the performance of specific REITs. The focus remains on India's burgeoning REIT market and its potential for growth.

Overview of REITs:

A REIT, be it a trust, Special Purpose Vehicle (SPV), or Holding Company (HoldCo), functions as an investment and management entity for income-producing real estate. This innovative financial instrument allows investors to collectively invest in real estate and receive a share of rental income or profits generated from the properties held by the REIT.

India's REIT Market:

The introduction of REITs in India dates back to 2008, but regulatory approval for their creation came in the budget of 2014. Presently, Indian REITs boast a market capitalization of approximately Rs 73,000 crore, covering 105 million square feet of commercial real estate in the office and retail sectors. While the market is still in its early stages compared to the US and Singapore, the reception has been positive, marked by successful listings such as EMBASSY Office Parks REIT, Mindspace Business Park, and Brookfield India Real Estate Trust.

Global Perspectives:

The United States offers a rich array of REIT options, including equity REITs, mortgage REITs, and hybrid REITs. Equity REITs focus on income-generating real estate, mortgage REITs invest in real estate debt, and hybrid REITs amalgamate elements of both approaches. Singapore has positioned itself as a leading REIT market since its introduction in 2002, featuring diverse categories like retail, office, industrial, and healthcare REITs.

Regulatory Framework:

India's REIT framework has evolved gradually, witnessing three successful REIT listings. However, there are constraints on investing in Indian real estate, specific asset allocation requirements, and a mandate for timely listings post-IPO closure. In contrast, the US offers greater flexibility, allowing global investments and various types of securities issuance. Singapore strikes a balance between specific market presence criteria and diversity in shareholder composition.

Challenges and Opportunities in India:

The Indian real estate industry is pivotal for the country's growth, attracting private and foreign investments. Despite its significance, the industry faces challenges such as lack of organization, complexities in legal and political systems, and hurdles in obtaining necessary permissions. Learning from the experiences of developed markets, particularly the securitization revolution in the US during the 1990s, can provide valuable insights for India.

Analysing Embassy REIT in India:

Embassy Office Parks REIT, the first REIT listed in India in April 2019, exhibits an intriguing correlation pattern with the Nifty50 and CNX Realty indices. Initially positively correlated, it shifted to a negative correlation from January 2021 onwards. This unique behaviour prompts further investigation into whether Embassy REIT tends to perform well when the market is down.

Behaviour of Embassy REIT:

An in-depth analysis of Embassy REIT's correlation during a continuous market decline from February 3, 2020, to July 31, 2020, indicates a positive correlation. This suggests that Embassy REIT tends to fall along with the overall market during downturns. However, with the REIT being relatively new in the market, it is essential to wait for it to mature and observe its performance over an extended period for a more comprehensive understanding of its behavior in various market conditions.

Comparative Regulatory Frameworks:

Delving deeper into the regulatory frameworks of these three regions, it becomes evident that each country tailors its approach to suit its unique economic context and objectives. India emphasizes control over domestic real estate investment, the USA provides more freedom for global investment and capital structure, while Singapore combines specific criteria for market presence with diversity in shareholder composition. Understanding these differences is crucial for investors navigating the REIT landscape in these jurisdictions.

The Potential of the Indian REIT Market:

India's REIT market is still in its nascent stages compared to more established markets like the US and Singapore. However, drawing insights from mature markets and adapting to a learning curve, the Indian REIT market holds the potential for significant exponential growth. The robust Indian economy and ongoing developments in the real estate sector are expected to catalyze the expansion of the REIT market.

Learning from the Securitization Revolution:

During the "securitization revolution" in the United States in the 1990s, both public Real Estate Investment Trusts (REITs) and Commercial Mortgage-Backed Securities (CMBS) markets underwent significant transformations. This period reinforced the connection between private real estate asset markets and the broader capital markets. Applying learnings from this era to India, especially considering its developing status, can contribute to the evolution and maturation of the REIT sector.

Future Outlook for India's REIT Market:

As India continues to grow economically, the real estate sector, bolstered by REITs, is poised to become a substantial contributor to the country's development and investment landscape. Despite challenges, including the relatively unorganized nature of the real estate industry, there is optimism that the market will continue its upward trajectory. Experts predict that the Indian real estate market, currently the second-largest job provider after agriculture, may reach a staggering U.S.$1 trillion market size by 2030.

Conclusion:

In conclusion, Real Estate Investment Trusts have emerged as a transformative force in the global investment landscape. India's REIT market, while nascent, holds immense potential for growth, learning from both the successes and challenges faced by more mature markets like the US and Singapore. The unique characteristics of specific REITs, such as Embassy Office Parks REIT, provide valuable insights into their behavior in various market conditions. As India navigates its journey towards a more organized and robust real estate sector, the careful consideration of global best practices and continuous adaptation to changing market dynamics will be key to unlocking the full potential of REITs in the country.

BEHAVIUORAL FINANCE:
IMPACT ON RETAIL INVESTOR

-Nikunj Waghela

Introduction

The financial world has long been governed by traditional theories in economics and finance, assuming rational decision-making by investors. However, the emergence of behavioral finance challenges these assumptions, recognizing that individuals often deviate from rational behaviour, making decisions influenced by psychological factors. Behavioural finance evolved as a response to the limitations of traditional theories. Pioneering works by Daniel Kahneman and Amos Tversky, such as Prospect Theory, reshaped our understanding of decision-making under uncertainty and behavioral biases. This section highlights the paradigm shift from traditional theories to the insights provided by behavioral finance.

Objectives of the Study

Primary Objective

To examine the influence and significance of behavioral finance in the investment decisions made by both retail and institutional investors. This sets the overarching goal for the research.

Secondary Objectives

- Prevalence of Behavioral Biases
- Effect on Investment Performance
- Role of Emotional Influences
- Implications for Financial Institutions
- Exploration of Emerging Trends

Significance of the Study

Highlighting the significance, the study is positioned as a response to the limitations of traditional theories. The acknowledgment of public investor behaviour in the contemporary capitalist setting adds relevance, emphasizing the real-world impact of behavioral finance.

Scope of the Study

The interdisciplinary nature of behavioral finance is emphasized again, emphasizing its integration with psychology, economics, and finance. The recognition of the increasing importance of behavioral insights in financial advisory services and academic programs adds practical relevance.

Limitation of the Study

Acknowledging the primary limitation of utilizing questionnaires to investigate investor behavior adds transparency to the research. The recognition of potential biases introduced by the method contributes to a nuanced understanding of the study's constraints.

Research Design and Methods

Overview

The section provides a detailed overview of the research design and methods. It outlines the identification of psychological biases, the use of survey questionnaires, interviews, and experimental studies, as well as the sample profile based on age and experience. List of Biases The inclusion of a list of biases tested in the study, such as Overconfidence, Herding, Anchoring, and others, adds clarity to the reader. This section serves as a reference for the subsequent detailed analysis.

Analysis and Hypothesis Testing

The methods used for analysis and hypothesis testing, particularly the Chi-Square Test for Independence, are explained. This provides transparency into the statistical approaches employed in the study.

5. Findings

Overconfidence Bias

Detailed findings are presented for each bias, starting with Overconfidence Bias. The hypotheses, statistical test results, and conclusions are elaborated upon. The significance of the differences between young and experienced investors is emphasized.

Herding Bias

Similar to the Overconfidence Bias, the Herding Bias section provides a detailed analysis of the hypotheses, test results, and conclusions. The emphasis is on understanding how both types of investors base their decisions on similar factors.

Anchor Bias

The Anchor Bias section explores how investors may be influenced by initial information or reference points. The hypotheses, statistical tests, and conclusions are detailed, shedding light on the decision-making processes related to anchoring.

Loss Aversion Bias

Findings related to Loss Aversion Bias are presented, emphasizing the cognitive bias where individuals feel the pain of losses more intensely than the joy of gains. The Chi-Square test results and conclusions are outlined.

Gambler's Fallacy

The section on Gambler's Fallacy delves into how individuals may believe in patterns of previous outcomes influencing future events. The statistical tests, p-values, and conclusions are detailed, highlighting the differences between young and experienced investors.

Mental Accounting

Findings related to Mental Accounting Bias are presented, exploring how investors may treat allocated money differently based on mental categorizations. The Chi-Square test results and conclusions are elaborated upon.

Cognitive Dissonance

The Cognitive Dissonance Bias section explores how investors may react to information that contradicts their beliefs. Detailed findings, statistical tests, and conclusions provide insights into the differences between young and experienced investors.

Confirmation Bias

The Confirmation Bias section presents findings related to seeking information that confirms existing beliefs. The Chi-Square test results and conclusions elaborate on the information-seeking behaviour of investors.

Disposition Effect

Detailed findings related to the Disposition Effect, where investors realize gains quickly but hold onto losses, are presented. The statistical tests and conclusions provide insights into how this bias manifest among different investor groups.

Summary of Findings

The summary summarises the findings from each bias, focusing on patterns and variations. It gives an in-depth look at how young and experienced investors differ in their susceptibility to various behavioural biases. The section emphasises that the study reveals a universal impact of biases on investment decisions, regardless of demographic or experience differences. This emphasises the significance of behavioural finance in comprehending and forecasting market dynamics. The findings' practical implications are discussed, including how financial institutions, policymakers, and educators can benefit from them. The possibility of developing interventions, educational programmes, and risk management strategies is emphasised. The report recommends future research topics such as investigating the role of cultural factors in shaping investor behaviour, incorporating neuro-finance methodologies, and investigating the impact of emerging technologies on decision making

Conclusion

The conclusion reiterates the study's key takeaways, summarising the main findings and their implications. It emphasises the research's contribution to the field of behavioural finance. Closing remarks acknowledge the study's limitations while expressing optimism about the ongoing evolution of behavioural finance. Finally, the report emphasises the importance of understanding and addressing behavioural biases in the financial domain.

Rethinking Asset Pricing Models in the Wake of the COVID-19 Pandemic: An Econometric Analysis

-Kanishka Nayak

Abstract:

The global COVID-19 pandemic has disrupted financial markets, necessitating a re-evaluation of traditional asset pricing models. This study employs an econometric analysis to assess the impact of the pandemic on widely used models, including CAPM, APT, and Fama-French Five-Factor Model. Findings indicate a significant rise in market volatility and risk premia, challenging the efficacy of pre-pandemic models. To address this, a modified asset pricing model is proposed, incorporating dynamic risk factors like the pandemic risk premium.

The model outperforms traditional ones, emphasizing the need for adaptability in explaining and predicting asset returns during unprecedented events. Implications for investors include the importance of incorporating dynamic risk factors, regular portfolio rebalancing, and seeking professional advice for informed decision-making.

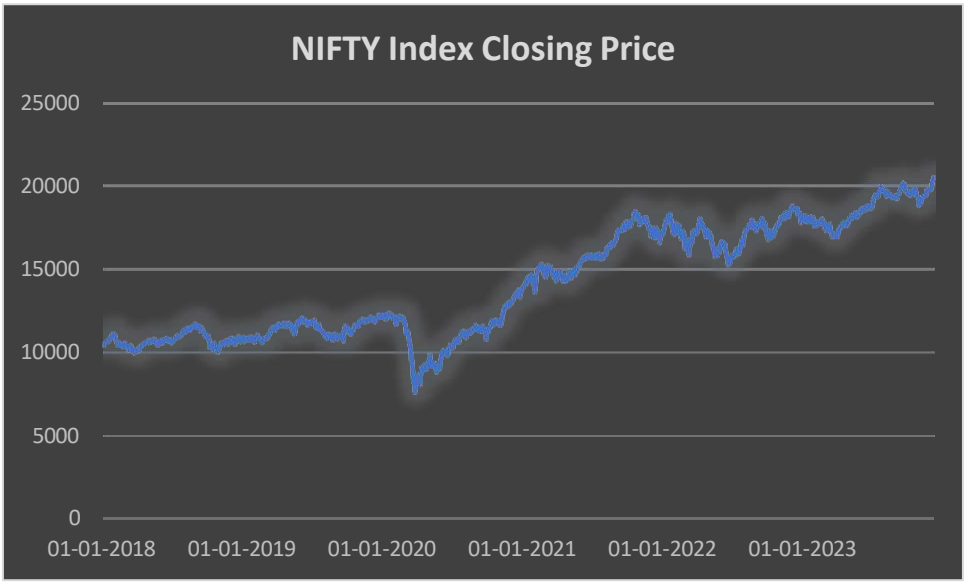


Figure 1.

Introduction:

The COVID-19 pandemic has left an indelible mark on the Indian economy, prompting a thorough investigation into the impact on various asset pricing models. The economic downturn, lockdowns, and disruptions to supply chains have necessitated a re-evaluation of traditional models' effectiveness.

While the government and RBI implemented measures to counter challenges, the stock markets experienced heightened volatility, reflecting the unique dynamics of different sectors. This study delves into the impact on widely used asset pricing models, focusing on CAPM, APT, and Fama-French Five-Factor Model. The research aims to address the limitations of these models in capturing the nuances of the pandemic-induced market conditions.

Stationarity and Heteroscedasticity Analysis:

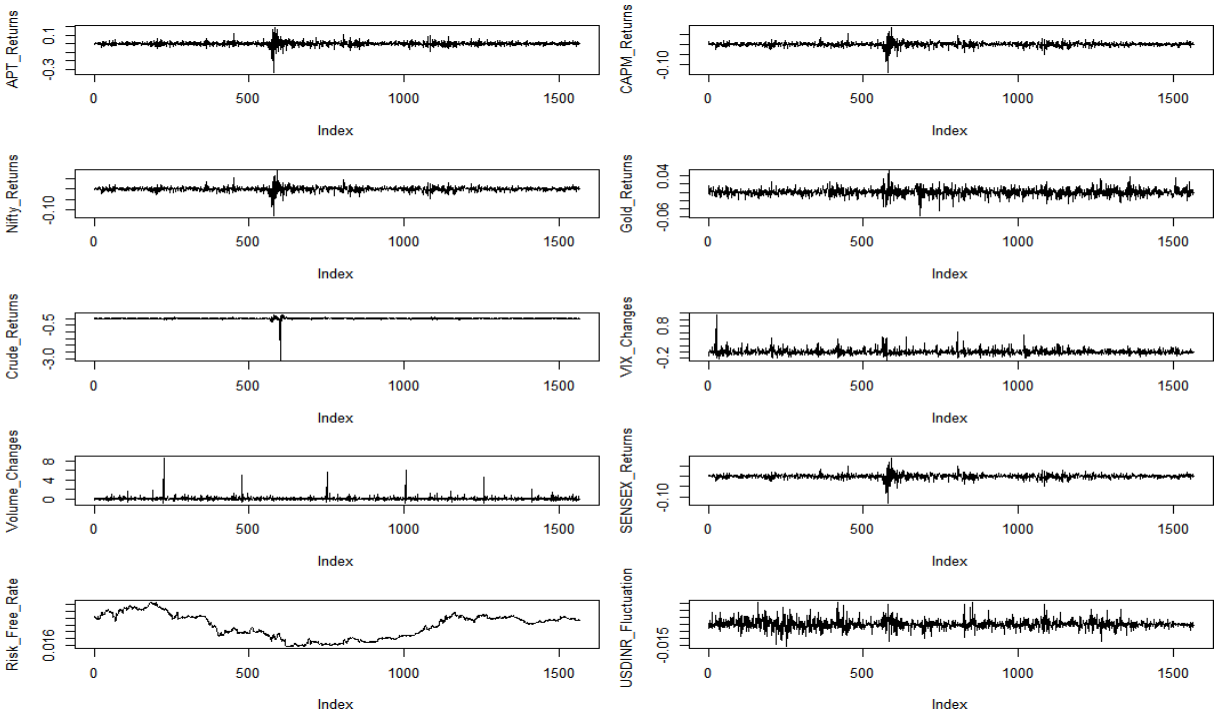
The stationarity tests using ADF, PP, and Zivot-Andrew Unit Root Test affirm the absence of unit roots for key variables like APT Returns, CAPM Returns, and Nifty Returns, supporting their stationarity. The ARCH LM test for Heteroscedasticity proves significant, emphasizing the varying volatility over time. These results play a pivotal role in applying asset pricing models, particularly APT and CAPM, in historical datasets spanning pre-pandemic and pandemic periods. The identified stationarity and heteroscedasticity patterns enhance the models' explanatory power in dynamic market conditions, supporting the study's objectives.

Table 8.7 Stationarity and Heteroscedasticity test

Stationarity and Heteroscedasticity test				
Variables	ADF (at level)	PP TEST (at level)	ZIVOT-ANDREW UNIT ROOT TEST	ARCH LM TEST
APT_Returns	-11.008**	-1979.3**	118.6***	1081.81***
CAPM_Returns	-10.254**	-1677.8**	6.182***	793.9691***
Nifty_Returns	-10.365**	-1657.3**	6.204***	886.3048***
Gold_Returns	-12.15**	-1435.3**	3.162*	176.5562***
Crude_Returns	-12.521**	-957.56**	60.53***	44.08741***
VIX_Changes	-11.962**	-1614.8**	7.046***	22.82199*
Volume_Changes	-12.076**	-1630.1**	14.45***	25.11461*
SENSEX_Returns	-10.449**	-1635.8**	5.662**	952.4721***
Risk_Free_Rate	-10.734*	-130.0701*	109.5***	1534.11***
USDINR_ Fluctuations	-10.528**	-1646.6**	4.085**	109.7159***

Note: ** indicates significance level at 1% ,*at 5% and at *** it indicates a zero or near zero significance level.

Panel on Stationarity and Heteroscedasticity Analysis:



Findings from GARCH Model and Granger Causality Tests:

The GARCH model reveals nuanced volatility dynamics, with APT_Returns, CAPM_Returns, Nifty_Returns, and SENSEX_Returns exhibiting pronounced sensitivity to past volatility shocks. APT_Returns, in particular, stands out for its rapid adjustment to short-term shocks and robust persistence of volatility, making it a crucial indicator of market turbulence. However, Gold_Returns and VIX_Changes show limited sensitivity to past shocks, indicating a weakness in capturing historical market turbulence. Granger Causality Tests reinforce APT's efficacy, revealing significant bi-directional causal relationships with other market factors. These findings underscore the importance of incorporating dynamic risk factors into asset pricing models, aligning with the study's objectives.

Table on GARCH Model Results (for Volatility Clustering and Volatility Persistence)

Variable	mu	omega	alpha1	beta1
APT_Returns	0.10192 (0.00974)**	0.1613 (0.00084)***	0.15755 (2.04e-10)***	0.81515 (< 2e-16)***
CAPM_Returns	0.08062 (5.04e-05)***	0.01905 (0.00147)**	0.10259 (2.98e-12)***	0.88158 (< 2e-16)***
Nifty_Returns	0.083627 (2.62e-05)***	0.019788 (0.00141)**	0.104082 (7.50e-12)***	0.879363 (< 2e-16)***
Gold_Returns	0.01602 (0.418)	0.03413 (0.011)*	0.08208 (4.52e-06)***	0.87373 (< 2e-16)***
Crude_Returns	0.1856 (0.000617)***	7.988e-05 (0.997103)	0.2361 (< 2e-16)***	0.883 (< 2e-16)***
VIX_Changes	0.12033 (0.512)	17.02293 (1.37e-13)***	0.24357 (2.40e-12)***	0.54539 (< 2e-16)***
Volume_Changes	4.96135 (< 2e-16)***	245.56072 (< 2e-16)***	0.96702 (< 2e-16)***	0.37759 (< 2e-16)***
SENSEX_Returns	0.088326 (9.36e-06)***	0.019272 (0.00125)**	0.104278 (3.02e-12)***	0.879963 (< 2e-16)***
Risk_Free_Rate	2.004e+00 (< 2e-16)***	8.499e-05 (2.62e-14)***	0.9345 (< 2e-16)***	0.0596 (0.212)
USDINR_Fluctuations	0.0161806 (0.01642)*	0.0027335 (0.00452)**	0.0908406 (4.95e-06)***	0.8864352 (< 2e-16)***

Note: ** indicates significance level at 1% ,*at 5% and at *** it indicates a zero or near zero significance level.

Conclusion:

As we navigate the complex aftermath of the COVID-19 pandemic, it becomes evident that traditional asset pricing models, such as Fama-Macbeth Regression and Fama-French Models, lack the dynamism observed in the APT model. The GARCH model and Granger Causality Tests underscore APT's adaptability to changing market conditions, emphasizing its role as a robust tool for capturing nuanced shifts in volatility and correlations. In contrast, the more static nature of coefficients in Fama-Macbeth Regression and Fama-French Models suggests potential limitations in adapting to intricate dynamics. This observation highlights the need for models that inherently incorporate flexibility and responsiveness, aligning with the study's objectives. As investors and policymakers grapple with the post-pandemic economic landscape, the insights gleaned from this research underscore the imperative of embracing dynamic models for more accurate decision-making and risk management.

A Comprehensive Investing Framework: How to find multibagger stocks and stocks that beat the Nifty using Peter Lynch strategies in the Indian context.

-Saumitra V Khanolkar

The Indian stock market has witnessed tremendous growth in recent years, offering diverse opportunities for investors. But with over 5,000 listed companies, navigating this landscape can be challenging. Many retail investors resort to short-term trading or follow recommendations blindly, often leading to disappointment.

In this article, we'll explore a systematic approach inspired by the legendary investor Peter Lynch, who consistently outperformed the market during his time at Fidelity Investments. By applying his principles to the Indian context, we aim to identify stocks with the potential to become multibaggers (delivering over 5x returns) or outperform the Nifty 50, the benchmark index.

Peter Lynch's Investment Philosophy:

Peter Lynch famously advocated for investing in "tenbaggers" – stocks with the potential to grow tenfold. He emphasized identifying companies with strong fundamentals, manageable debt, and sustainable growth potential, often overlooked by institutional investors. His focus on intrinsic value, rather than just technical analysis, resonated with retail investors seeking long-term wealth creation.

Adapting Lynch's Strategies for India:

While certain aspects of Lynch's strategies remain universally applicable, the Indian market necessitates nuanced adjustments. Let's delve into the key parameters we used to develop a screener and analyze potential investments:

Growth: Look for companies with a five-year average sales Compound Annual Growth Rate (CAGR) exceeding 10%. This indicates a consistently expanding business with the potential to attract investor interest.

Profitability: Focus on companies with a five-year average Return on Capital Employed (ROCE) above 15%. ROCE measures a company's efficiency in generating returns on its invested capital, indicating strong financial health.

Valuation: Consider companies with a market capitalization between INR 1000 crore and INR 15000 crore. This sweet spot avoids large caps already saturated with institutional attention, while offering sufficient liquidity for retail investors.

Management: Analyze the competence and track record of the company's leadership team. Strong management fosters strategic vision, operational excellence, and a commitment to shareholder value.

Our Analysis and Findings:

We applied the aforementioned screener to identify potential multibaggers and Nifty beaters for each year between 2010 and 2023. By tracking their subsequent five-year performance, we categorized them into three groups:

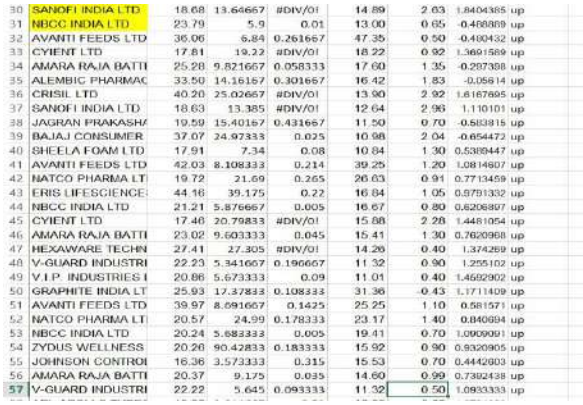
- **Multibaggers:** These stocks delivered returns exceeding 5x in five years, demonstrating exceptional growth potential.
- **Nifty Beaters:** These stocks outperformed the Nifty 50 index over the same period, offering superior returns to benchmark investors.
- **Underperformers:** These stocks failed to match the Nifty's performance or delivered negative returns, highlighting the importance of careful selection.

Company Name	avg roce	avg d/e	avg npm	sales cagr	peg ratio	returns	
Lupin Ltd.	17.12	0.665	12.12667	24.24	0.85	5.5774648 m	2010
Samvardhana Motherson Intl. Ltd.	17.68	1.295	9.76	53.71	0.61	5.2 m	2011
Britannia	16.33	0.39	5.561667	21.87	1.34	7 m	2012
Indian Bank	15.96	0.406	0	24.56%	1.4	6.9406667 m	2012
Godrej Properties Ltd.	15.07	0.9575	50.1375	44.84	3	9.6829461 m	2013
Eicher Motors Ltd.	15.79	0.031667	19.275	26.14	1.2	7.244898 m	2014
MINDTREE LTD	24.18	0.026667	12.915	23.18	1.10	8.8911111 m	2017
PERSISTENT SYSTEMS LTD	19.89	0	18.59	23.54	0.96	5.9340938 m	2018
PERSISTENT SYSTEMS LTD	19.06	0	19.05833	18.57	3.78	7.7774086 m	2019
TATA ELXSI LTD	38.31	0.3	11.84333	18.05	1.40	7.6043578 m	2019
TIMKEN INDIA LTD	16.72	0.013333	8.243333	18.24	0.50	3.3981171 m	2020
TATA ELXSI LTD	38.92	0	14.27333	15.64	1.40	6.9947267 m	2020
PERSISTENT SYSTEMS LTD	17.77	0	18.69667	15.06	1.17	6.6981402 m	2020
GRINDWELL NORTON LTD	15.77	0	9.556667	10.56	0.70	3.0981308 m	2020
CENTRAL DEPOSITORY SERVICE	17.19	0	-16128.4	14.34	0.70	2.0088117 m	2021
TATA ELXSI LTD	35.95	0.05	15.29167	13.64	1.30	2.4689726 m	2021
TIMKEN INDIA LTD	16.15	0.013333	9.748333	11.73	0.90	2.6126523 m	2021
V.I.P. INDUSTRIES LTD	22.43	0.19	6.031667	10.44	0.50	2.0619469 m	2021
KEI INDUSTRIES LTD	17.62	0.953333	4.421667	12.21	0.70	1.5018587 m	2022
FINE ORGANIC INDUSTRIES LTD	23.13	0.175	12.6475	11.43	1.90	1.2916667 m	2022
J.B. CHEMICALS & PHARMA LTD	16.36	0.045	15.55667	10.73	0.65	1.1749137 m	2022

a) Multibaggers

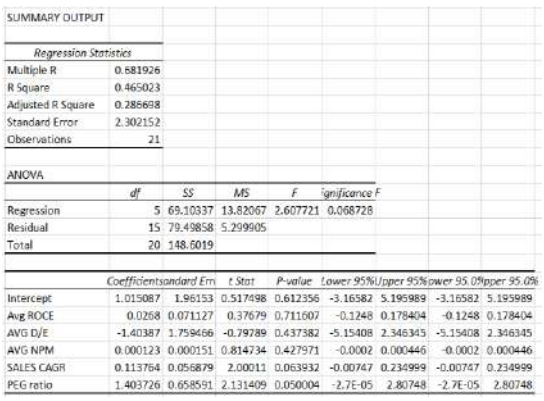
Company Name	avg roce	avg npm	avg d/e	sales cagr	peg ratio	returns		
Glenmark Pharm	20.13	18.59833	1.358333	45.81	0.48	5	beat nifty	2010
Voltas Ltd.	26.84	5.231667	0.921667	26.06	1.3	1.7070064	beat nifty	2010
Marico Ltd.	28.57	8.27	0.64	21.86	1.07	3.8630812	beat nifty	2010
Piramal Enterpris	19.43	13.41167	0.296667	18.52	0.95	2.2053107	beat nifty	2010
Voltas Ltd.	30.97	5.981667	0.226667	26.01	1.3	1.4873022	beat nifty	2011
Piramal Enterpris	19.83	13.75	0.546667	22.61	1.22	2.2852582	beat nifty	2011
Marico Ltd.	27.64	9.061667	0.766667	21.31	1.17	3.6806862	beat nifty	2011
Colgate-Palmoliv	98.91	14.85833	0.02	15.27	2.06	2.0827251	beat nifty	2011
C G Power & Indl	25.15	8.526667	0.176667	19.38%	2.37	3.5540541	beat nifty	2012
Castrol India Ltd.	64.23	13.40167	0.0075	13.84%	4.06	1.778026	beat nifty	2012
Exide Industries L	19.99	10.23667	0.29	26.34%	0.83	2.8438394	beat nifty	2012
Godrej Consume	42.54	17.47	0.383333	30.09%	1.06	3.6694444	beat nifty	2012
Procter & Gambl	36.4	20.2	0	12.11%	1.3	2.0034079	beat nifty	2012
Samvardhana Mo	17.15	9.595	1.355	23.47%	0.55	2.0023088	beat nifty	2012
Zydus Lifescience	20.89	18.08667	0.516667	25.30%	1.23	3.7711172	beat nifty	2012
Bata India Ltd.	24.86	8.281667	0.136667	14.99	1.2	2.7750385	beat n	2013
Berger Paints Ind	17.71	6.776667	0.223333	19.3	1.22	1.8278889	beat n	2013
Britannia Industr	18.29	4.75	0.523333	19.23	1.26	1.000806	beat n	2013
C G Power & Indl	22.87	8.753333	0.096667	14.81	1.1	2.1008003	beat n	2013
Castrol India Ltd.	73.2	14.27333	0.006667	11.2	1.1	2.7345133	beat n	2013
Cummins India Lt	30.23	13.78833	0.0175	14.17	-8.54	1.9770862	beat n	2013
Divi'S Laboratori	31.44	32.555	0.08	20.23	2.76	4.0322581	beat n	2013
Exide Industries L	21.68	10.515	0.234	21.84	1.17	3.7006604	beat n	2013
Indian Bank	15.32	#DIV/0!	0.44	21.69	1.2	1.7693401	beat n	2013
Procter & Gambl	35.62	18.39833	0.005	19.24	1.1	1.8504098	beat n	2013
Amara Raja Ener	23.29	9.603333	0.358333	22.28	1.2	4.0448276	beat n	2014

b) Stocks that beat the Nifty



30	SANOFI INDIA LTD	18.68	13.64667	#DIV/0!	14.89	2.63	1.8404385 up
31	NBCC INDIA LTD	23.79	5.9	0.01	13.00	0.65	-0.468869 up
32	AVANTI FEEDS LTD	36.06	6.84	0.261667	47.35	0.50	-0.480432 up
33	CYIENT LTD	17.81	19.22	#DIV/0!	18.22	0.92	1.3691589 up
34	AMARA RAJA BATTI	25.28	9.821667	0.058333	17.60	1.35	-0.287388 up
35	ALEMBIC PHARMAC	33.50	14.16167	0.301667	16.42	1.83	-0.05814 up
36	CRISIL LTD	40.20	25.02667	#DIV/0!	13.90	2.92	1.6167695 up
37	SANOFI INDIA LTD	18.63	13.385	#DIV/0!	12.64	2.96	1.110101 up
38	JAGRAN PRAKASH/	19.59	15.40167	0.431667	11.50	0.70	-0.583815 up
39	BAJAJ CONSUMER	37.07	24.97333	0.025	10.98	2.04	-0.654472 up
40	SHEELA FOAM LTD	17.91	7.34	0.08	10.84	1.30	0.5389447 up
41	AVANTI FEEDS LTD	42.03	8.108333	0.214	39.25	1.20	1.0814607 up
42	NATCO PHARMA LT	19.72	21.69	0.265	26.63	0.91	0.7713459 up
43	ERIS LIFESCIENCE	44.16	39.175	0.22	16.84	1.05	0.8791332 up
44	NBCC INDIA LTD	21.21	5.876667	0.005	16.67	0.80	0.6206807 up
45	CYIENT LTD	17.46	20.79833	#DIV/0!	15.88	2.28	1.4481054 up
46	AMARA RAJA BATTI	23.02	9.603333	0.045	15.41	1.30	0.7620968 up
47	HEXAWARE TECHN	27.41	27.305	#DIV/0!	14.26	0.40	1.374269 up
48	V-GUARD INDUSTRI	22.23	5.341667	0.196667	11.32	0.90	1.255102 up
49	V.I.P. INDUSTRIES I	20.86	5.673333	0.09	11.01	0.40	1.4692902 up
50	GRAPHITE INDIA LT	25.93	17.37833	0.108333	31.36	0.43	1.1711409 up
51	AVANTI FEEDS LTD	39.97	8.691667	0.1425	25.25	1.10	0.581571 up
52	NATCO PHARMA LT	20.57	24.99	0.178333	23.17	1.40	0.840694 up
53	NBCC INDIA LTD	20.24	5.683333	0.005	19.41	0.70	1.0909091 up
54	ZYDUS WELLNESS	20.26	90.42833	0.183333	15.92	0.90	0.9320905 up
55	JOHNSON CONTROI	16.36	3.573333	0.315	15.53	0.70	0.4442803 up
56	AMARA RAJA BATTI	20.37	9.175	0.035	14.60	0.99	0.7302438 up
57	V-GUARD INDUSTRI	22.22	5.645	0.093333	11.32	0.50	1.0933333 up

c) Underperformers



SUMMARY OUTPUT

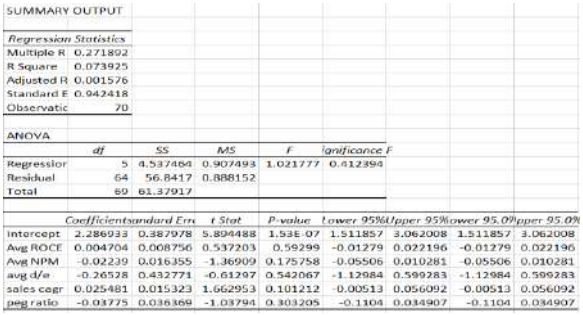
Regression Statistics	
Multiple R	0.681926
R Square	0.465023
Adjusted R Square	0.286698
Standard Error	2.302152
Observations	21

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	5	69.10337	13.82067	2.607721	0.068728
Residual	15	79.49858	5.299905		
Total	20	148.6019			

	Coefficients	*tandard Err*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*ower 95.0%*	*pper 95.0%*
Intercept	1.015087	1.96153	0.517498	0.612356	-3.16582	5.195989	-3.16582	5.195989
Avg ROCE	0.0268	0.071127	0.37679	0.711607	-0.1248	0.178404	-0.1248	0.178404
AVG D/E	-1.40387	1.759466	-0.79789	0.437382	-5.15408	2.346345	-5.15408	2.346345
AVG NPM	0.000123	0.000151	0.814734	0.427971	-0.0002	0.000446	-0.0002	0.000446
SALES CAGR	0.113764	0.056879	2.00011	0.063932	-0.00747	0.234999	-0.00747	0.234999
PEG ratio	1.403726	0.658591	2.131409	0.050004	-2.7E-05	2.80748	-2.7E-05	2.80748

d) Multibagger regression



SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.271892
R Square	0.073925
Adjusted R	0.001576
Standard E	0.942418
Observatic	70

ANOVA

	df	*SS*	*MS*	*F*	*Ignificance F*
Regressior	5	4.537464	0.907493	1.021777	0.412394
Residual	64	56.8417	0.888152		
Total	69	61.37917			

	Coefficients	*tandard Erı*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*ower 95.0%*	*pper 95.0%*
Intercept	2.286933	0.387978	5.894488	1.53E-07	1.511857	3.062008	1.511857	3.062008
Avg ROCE	0.004704	0.008756	0.537203	0.59299	-0.01279	0.022196	-0.01279	0.022196
Avg NPM	-0.02239	0.016355	-1.36909	0.175758	-0.05506	0.010281	-0.05506	0.010281
avg d/e	-0.26528	0.432771	-0.61297	0.542067	-1.12984	0.599283	-1.12984	0.599283
sales cagr	0.025481	0.015323	1.662953	0.101212	-0.00513	0.056092	-0.00513	0.056092
peg ratio	-0.03775	0.036369	-1.03794	0.303205	-0.1104	0.034907	-0.1104	0.034907

e) Beat Nifty Regression

Key Insights and Observations:

- Our analysis revealed that applying Peter Lynch's principles, adjusted for the Indian context, can indeed yield promising results.

- Over the studied period, we identified more Nifty Beaters than Multibaggers, suggesting a higher probability of achieving consistent market outperformance with this approach.

- Interestingly, Sales CAGR and PEG Ratio emerged as the most statistically significant factors impacting multibagger returns.High Sales CAGR, combined with a reasonable PEG ratio (indicating sustainable growth relative to valuation), significantly increased the likelihood of multibagger status.

- For Nifty Beaters, Sales CAGR remained the most influential factor, emphasizing the importance of strong organic growth in achieving market-beating returns.

Beyond the Numbers:

While quantitative analysis provides a valuable framework, qualitative factors also play a crucial role. Thorough research into a company's business model, competitive landscape, and future prospects is essential before making any investment decision. Additionally, monitoring portfolio companies regularly and adapting investments based on changing circumstances is crucial for long-term success.

Conclusion:

Peter Lynch's investment philosophy, when adapted to the Indian market and combined with careful analysis, can empower retail investors to identify hidden gems with the potential to outperform the market. By focusing on high-growth, fundamentally strong companies with reasonable valuations, investors can navigate the market with greater confidence and aim for consistent wealth creation. Remember, patience, discipline, and ongoing research are key ingredients for success in this dynamic journey.

ESG Disclosure Score and Firm Performance – Empirical Analysis of Indian Listed Companies

-Shriharsh Kapse

Introduction

Environmental, Social, and Governance (ESG) data is pivotal for investors, offering a holistic understanding of an organization's operations and risks. Beyond risk assessment, ESG metrics serve as valuable tools for internal strategic goals. They facilitate the identification and management of sustainability-related risks, potentially enhancing long-term risk-adjusted returns. ESG analysis considers diverse stakeholders, influencing an organization's overall performance. Environmental criteria cover energy efficiency, climate efforts, and pollution control, revealing sustainability efforts and associated risks. Social aspects encompass working conditions, diversity, and humanitarian practices, impacting customer satisfaction and employee engagement. Governance data evaluates ethical conduct, transparency, and decision-making, indicating a commitment to responsible practices. In essence, ESG data transcends its role in risk assessment, becoming a catalyst for sustainable and responsible business practices that benefit both investors and the broader stakeholder community.

Objectives

To show relation between the ESG scores and financial performance of the listed companies.

Knowing the impact of ESG performance on financial performance.

Data Collection

Data is collected for this study completely based on secondary sources (Bloomberg). Data of all the companies in the Nifty 50 index are taken into consideration.

Data Analysis

Descriptive Statistics

The dataset reveals a wide array of measurements across its nine distinct variables. The ESG Disclosure Score has an average of 45.80 and a considerable standard deviation of 11.90, indicating substantial variability among the 500 observations, ranging from 14.45 to 74.2.

Likewise, metrics like Debt-to-Equity Ratio and Tobin's Q show significant ranges and deviations, signifying notable disparities across their respective 461 and 500

observations. Conversely, metrics such as Market Capitalization and Net Income demonstrate smaller standard deviations, implying a tighter spread around their means. Collectively, these statistics underscore the dataset's diverse nature, highlighting varying levels of spread and central tendencies across the analysed variables.

Pearson's Correlation Coefficient

The analysis of various financial and environmental metrics reveals interesting correlations. Firstly, there is a weak but positive correlation (0.2111) between RD Spending and ESG Disclosure Scores, hinting at a possible tendency for Research and Development investments to increase alongside higher ESG disclosure commitments. In contrast, the relationship between carbon dioxide greenhouse gas emissions and the debt-to-equity ratio shows a marginal positive correlation (0.4367), suggesting a slight tendency for emissions to rise with increasing debt-to- equity levels. Tobin's Q and Total Asset exhibit a substantial negative correlation (- 0.6328), indicating a sharp decline in Tobin's Q as Total Assets rise. Conversely, a strong positive correlation (0.7533) between Net Income and Total Assets implies a robust tendency for net income to increase as total assets rise. These findings shed light on potential financial and environmental dynamics that organizations should consider in their strategic decision-making processes.

Testing for Heteroskedasticity

The significance of a low p-value, typically below commonly accepted thresholds like 0.05 or 0.01, in the context of a fixed-effects regression model indicates a rejection of the null hypothesis and leads to the conclusion of heteroskedasticity. In practical terms, this suggests a substantial likelihood that the variances of the error terms within the fixed-effects regression model significantly vary among the distinct groups. Heteroskedasticity, the uneven distribution of error term variances, can potentially impact the reliability and efficiency of the regression estimates. The identification of such variance discrepancies among groups underscores the importance of considering and addressing heteroskedasticity in the interpretation of the model and emphasizes the need for appropriate adjustments or alternative modelling approaches to ensure robust and accurate results in the analysis.

Fixed Effect Regression

Dependent Variable: ESG Disclosure Score

Independent Variables: RD Spending, Debt to Equity, Carbon Dioxide and Greenhouse Gases, Tobin's Q, Percentage of Board Independence, Market Cap, Net Income, Total Asset.

The low p-value ($p = 0.000$) for the F-statistic suggests at least one independent variable significantly predicts ESG Disclosure Scores. The R-squared of 0.0664 indicates the model explains 6.64% of variance. Debt to Equity and Carbon Dioxide Greenhouse gases lack statistical significance ($p = 0.212$, $p = 0.731 > 0.05$), while Total Asset significantly influences ESG Disclosure Scores ($p = 0.000 < 0.05$).

Fixed Effect Regression

Dependent Variable: Tobin's Q

Independent Variables: ESG Disclosure Score, RD Spending, Debt to Equity, Carbon Dioxide and Greenhouse Gases, Percentage of Board Independence, Market Cap, Net Income, Total Asset

The R-squared of 0.3470 reveals that the model explains around 34.70% of Tobin's Q variation. The F-statistic's p-value (0.0062) indicates significant prediction by at least one independent variable. RD Spending, Debt to Equity, Carbon Dioxide Greenhouse gases, and Total Asset lack statistical significance, while Percentage of Board Independence and Market Cap significantly influence Tobin's Q ($p = 0.079$, $p = 0.004 < 0.05$).

Fixed Effect Regression

Dependent Variable: Net Income

Independent Variables: ESG Disclosure Score, RD Spending, Debt to Equity, Carbon Dioxide and Greenhouse Gases, Percentage of Board Independence, Market Cap, Tobin's Q, Total Asset

The R-squared of 0.2573 indicates the regression model explains about 25.73% of Net Income variability. The low p-value (Prob > F = 0.0000) suggests collective significance of at least one independent variable in predicting Net Income. RD Spending, Carbon Dioxide Greenhouse gases, Tobin's Q, Percentage of Board Independence, and Total Asset lack significance. However, Debt to Equity ($p = 0.002< 0.05$) and Market Cap ($p = 0.018 < 0.05$) significantly influence Net Income.

Fixed Effect Regression

Dependent Variable: Debt to Equity

Independent Variables: ESG Disclosure Score, RD Spending, Net Income, Carbon Dioxide and Greenhouse Gases, Percentage of Board Independence, Market Cap, Tobin's Q, Total Asset

The R-squared of 0.4975 indicates the model explains about 49.75% of Debt-to- Equity ratio variation. The very low p-value (Prob > F = 0.0000) suggests the collective significance of independent variables in predicting Debt to Equity. Carbon Dioxide Greenhouse gases and Tobin's Q lack statistical significance, while RD Spending, Percentage of Board Independence, Market Cap, Net Income, and Total Asset are significant predictors at the 0.05 level.

Limitations

This study has limitations despite thorough data analysis and regression modelling. These limitations are mainly related to the limitations of the datasets that are available and the difficulties of fully incorporating all the variables that influence ESG scores. More comprehensive qualitative analyses and larger datasets may be beneficial for future research in order to offer a more comprehensive understanding of the relationship between ESG and performance.

Conclusion

The exploration of the connection between financial performance metrics and Environmental, Social, and Governance (ESG) disclosure scores revealed a complex and nuanced relationship, diverging from conventional understandings. Surprising findings included weak and statistically insignificant correlations for certain ESG metrics like RD spending and carbon dioxide emissions, challenging established assumptions. However, notable impacts from market capitalization and total assets on ESG scores suggested a potential alignment between specific ESG factors and business performance metrics. This study emphasizes the need for a nuanced understanding of the interdependence between ESG considerations and corporate performance, challenging simplistic cause-and-effect associations.

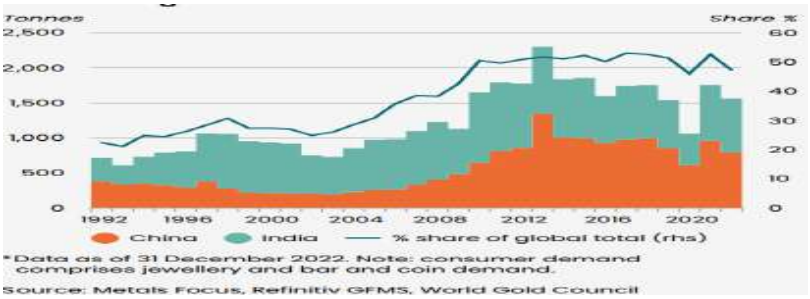
Study on ‘A Comparative Study of Indian Bullion Markets – Different Investment asset classes, products & Investor perception

-Animesh Basu

My research is specifically honed in on the perspectives of retail investors regarding the bullion market, exploring aspects such as products, exchanges, banking, and general market awareness. Through this study, I aim to shed light on the preferences and insights of retail investors, providing valuable information to all market participants. This includes investors and traders, guiding them on the available products in each market segment and assisting them in making informed decisions that align with their financial goals.

Introduction

Bullion, primarily gold and silver, comprises precious metals traded as bars, coins, or ingots, valued for their metal content rather than artistic attributes. Originating in the 7th century BCE, bullion coins gained prominence, shaping trade and investment for civilizations like the Greeks and Persians. Spanish conquistadors' influx of precious metals post-Columbus significantly impacted global trade. The 19th- century Gold Standard anchored currencies to specific gold amounts, fostering stability until its 1971 abandonment. Silver mining, dating back to 3000 BCE, surged post-Columbus, reaching remarkable production levels by the 1900s. Presently, India and China dominate gold consumption, impacting current account deficits. The rising cost of gold reflects scarcity and diverse cultural influences.



TYPES OF INDIAN BULLION MARKETS IN INDIA

India's robust bullion market, deeply rooted in cultural traditions, offers diverse avenues for gold and silver transactions. Physical bullion markets encompass jewelry stores, contributing 7% to India's GDP, projecting growth to USD 90 billion by 2025. During festivals, families traditionally buy gold as gifts or for personal use, highlighting the significance of jewelry stores.

Bullion dealers, pivotal in the gold and silver market, act as intermediaries between importers and consumers. Operating in a multi-tiered hierarchy, they ensure efficient distribution across urban, semi- urban, and rural areas, meeting varied investor demands.

Banks, authorized by the Reserve Bank of India since 1997, engage in bullion banking, where precious metals replace traditional fiat currency. This involves lending, investing, and managing assets and derivatives tied to these valuable materials. Despite authorization, there hasn't been a significant evolution in product offerings.

India boasts a diverse landscape of bullion exchanges, each catering to different market segments and preferences. The India International Bullion Exchange (IIBX), launched in 2022, stands as a transformative force in trading physical bullion, particularly gold, within the Gujarat International Finance-Tec City (GIFT City). The exchange, designated under the Comprehensive Economic Partnership Agreement (CEPA), plays a crucial role in facilitating cost-effective gold imports. The exchange's allowance for businesses under Chapter 71 of the HS Code system to directly import gold into India broadens participation, potentially impacting the market share of Indian banks. If silver imports under CEPA are also routed through IIBX, the exchange's significance is likely to grow substantially, especially considering the absence of a ceiling on silver imports.

Moving to commodity exchanges, the Multi Commodity Exchange emerges as a leading platform facilitating trading gold and silver futures contracts. The introduction of Gold Options and the ICOMDEX Bullion Index further diversify investment opportunities. The index, comprising gold and silver, serves as a benchmark for tracking the bullion sector's performance in India, providing diversification benefits and reduced volatility.

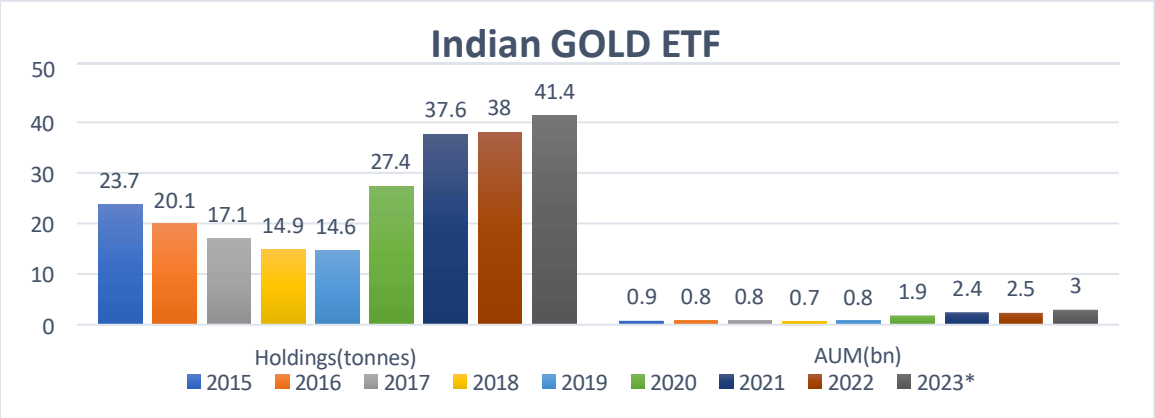
Stock exchanges like the National Stock Exchange of India and the Bombay Stock Exchange contribute to the comprehensive landscape. NSE offers a range of gold and silver futures contracts, catering to diverse investor needs. The introduction of new derivatives contracts expands investor options. BSE, in response to market dynamics, introduced Electronic Gold Receipts (EGRs) in October 2022, representing a modern form of gold trading. Regulated by SEBI, EGRs provide transparent bullion trading, efficient price discovery, and standardization of gold quality. With the flexibility of choosing vaults nationwide, diverse market participants, and a seamless conversion process to physical gold, EGRs offer a unique pathway to bullion investment.

Gold imports played a substantial role in causing current account deficits. In response, the Government of India implemented several restrictions on gold imports and introduced alternative measures.

Sovereign Gold Bonds (SGBs), introduced by the Government of India, provide a financial avenue for individuals to invest in gold. With an eight-year maturity, SGBs offer fixed interest at 2.50% per year, paid semi-annually. Tax-efficient, they provide exemptions on capital gains if held until maturity, but if sold earlier, capital gains tax applies. The RBI's announced price for the first phase in 2015 showcases that with a fixed interest rate of 2.75% per annum from the issuance date, investors can earn a return of 128.5% in absolute terms or 10.88% in CAGR, making SGBs an attractive investment option.

Digital gold and silver offer individuals a convenient way to own a share of precious metals in electronic form, eliminating the need for physical storage. In India, three companies facilitate digital gold services, purchasing equivalent physical gold and securely storing it in insured vaults. With advantages like doorstep delivery, low entry points, collateral for online loans, 24K purity, secure storage, and flexibility for exchanges, digital gold provides a hassle-free investment experience. Digital silver, with investments as low as Rs.1 or 1g, faces challenges in gaining popularity due to unclear regulations and past failures of similar products, despite its potential conveniences. With leading fund houses offering these products, the potential for further growth remains promising despite initial challenges. Today, some 16 companies offer digital gold products with an estimated trading volume in 2022 of around 4- 5t compared to less than 0.5t in 2016.

The Indian Gold ETF over the years has witnessed fluctuations in both gold holdings and AUM. Starting in 2015 with 23.7 tonnes and $0.9 billion AUM, the holdings decreased until 2018, reflecting a trend of reduced gold quantities. However, from 2019 onwards, both holdings and AUM showed an upward trajectory, reaching 27.4 tonnes and $1.9 billion in 2020 and further escalating to 41.4 tonnes and $3 billion in 2023. This indicates growing investor interest and confidence in the Indian Gold ETF. Silver Exchange-Traded Products (ETPs) debuted in India in September 2021, benchmarking against LBMA daily silver prices. Mandated to have a minimum 95% investment in silver, they faced challenges like low investor awareness, higher expense ratios, and increased tracking error compared to equity ETPs. Despite uncertainties similar to the introduction of gold ETPs in 2007, silver ETP holdings in India reached 8 million ounces (250 tons) by the end of 2022.



In conclusion, the Survey data illuminates the current landscape of bullion awareness, investment patterns, and preferences in India. The majority of the population exhibits limited familiarity with bullion products, emphasizing the potential for educational initiatives to enhance understanding. Notably, 46.5% of investors have engaged in bullion investment or trading, with a considerable preference for gold over silver.

The frequency of trading or investment in bullion varies, with cultural and religious reasons driving 34% of investors, while concerns about inflation motivate 30%. The preference for physical modes of investment, indicated by 61% of respondents, underscores the tangible nature of bullion as a key factor in decision-making.

Gold jewelry emerges as the most favored bullion product, reflecting its cultural and aesthetic appeal. Meanwhile, the survey reveals a notable lack of utilization of bullion banking services, with 73.7% of respondents reporting no engagement, suggesting an untapped market potential.

Sovereign Gold Bonds and digital gold present attractive investment avenues, offering fixed interest rates and hassle-free electronic ownership. Despite initial challenges, the Indian Gold ETF and Silver Exchange-Traded Products show promising growth, reflecting increasing investor confidence.

In essence, the findings underscore the multifaceted motivations behind bullion investment in India and the diverse landscape of preferred products and modes. The data also highlights the substantial untapped market for bullion banking services, signaling opportunities for education and promotion in this sector.

Impact of Finfluencers on Investor Behaviour Subtitle – Summary Report

-Abhishek Mishra

The conducted study meticulously delved into the impact of social media on the behaviour of individual investors within the Indian equity markets. The data, collected from 170 respondents, provided crucial insights into various demographic factors, social media usage patterns, influencer preferences, investment behaviour, and the consequential outcomes.

The following encapsulates the key findings and conclusions derived from the study:

Demographic Insight:

- **Age:** The majority of respondents fall between the ages of **18 to 30**, representing **55.30%** of the surveyed population. This younger demographic might indicate a higher engagement with social media and potentially greater susceptibility to influencer content.
- **Gender:** The majority, around **79.40%**, identify as **male**. This could suggest either a bias in the survey respondents or potentially reflect a disparity in investment behaviour across gender lines.
- **Education and Occupation:** The highest percentages of respondents possess **Bachelor's or Master's degrees, at 44.10% and 48.80%** respectively. Occupation-wise, professionals, private sector employees, and the self-employed constitute the significant proportion of respondents. This may indicate a more financially stable or educated subset engaging in these surveys.

Social Media Usage Patterns:

Frequency of Use: The majority of respondents use social media **multiple times a day (58.20%) and daily (33.50%)**. This high frequency suggests a heavy reliance on social platforms for information and interaction.

Platform Preferences: Platforms like **Instagram, LinkedIn, and WhatsApp** have high user engagement, indicating their importance as sources of financial information or investment-related discussions.

Influencer Preferences and Impact:

42.40% of participants **followed influencers** discussing financial topics. Influencers like **Akshat Shrivastava and Sharan Hegde garnered higher followers**. Remarkably, 66.70% had been following influencers for less than 2 years. Additionally, 50% reported making investment decisions based on influencer information.

Investment Behaviour and Outcomes:

Influence of Influencers: Around **50%** of respondents admitted to **making investment decisions based on social media influencer content**. However, the majority haven't verified these influencers' SEBI IA/RA registration, raising concerns about the credibility of their advice.

Confidence and Outcomes: Notably, over **30%** of respondents reported **financial gains** from these influenced decisions, but **11.10% also reported losses**. The **level of confidence** in influencer advice appeared varied, with only **5.60% being very confident**.

Behavioural Change and Impact: A significant percentage changed their investment decisions based on influencer recommendations. Additionally, **70.80%** experienced **conflicting information** from **different influencers**, possibly impacting their decision-making processes.

Conclusions:

The study indicated a strong correlation between social media influence and investment decisions among Indian equity investors. Despite a substantial reliance on social media influencers for financial guidance, a sizable proportion expressed dissatisfaction with the advice. Notably, while gains were observed, losses prompted a unanimous halt in following influencers.

Implications:

The study's implications extend to marketers and financial service providers, showcasing the potential of social media as a promotional tool. It highlights the need for influencers to offer more reliable and accurate information. Marketers can leverage social media platforms to reach targeted segments effectively.

Recommendations:

Given the substantial impact of social media influencers on investment decisions and the potential risks associated, regulatory bodies like SEBI should consider:

Stricter Regulations: Mandating SEBI registration for all financial influencers to provide accurate and credible information.

Implementing guidelines for influencers regarding responsible content creation and verification of investment-related information.

Education and Awareness: Conducting investor awareness programs to educate about verifying influencer credentials before acting on their advice.

Encouraging investors to scrutinize and critically analyse influencer information before making investment decisions.

Surveillance and Monitoring: Establishing a monitoring system to track influencer activity and ensure compliance with SEBI guidelines.

Regular audits and checks to identify and penalize influencers spreading false or misleading financial information.

Impact of Currency market on Commodity market

-Tanisha Gang

The intricate relationship between the currency and commodity markets holds paramount significance, particularly for a country like India, where a vast agricultural sector and rapidly growing industrial sector are deeply interconnected with both commodity and foreign exchange markets, thus significantly impacting the overall economy. The factors influencing this interdependency include cost and competitiveness, investor sentiment, capital flows, global and domestic economic pressures, and technological innovations, among others.

India's standing as the third-largest oil importer globally underscores its susceptibility to fluctuations in global oil prices. The surge in gold prices during the COVID-19 pandemic, reaching historic highs, became a focus for policymakers grappling with maintaining the Balance of Payments (BOP) and foreign exchange reserves. The pandemic's economic challenges, coupled with increased demand for secure investment options like gold, resulted in significant impacts on India's current account deficit (CAD) and the depreciation of the rupee.

Simultaneously, the Russia-Ukraine war, coupled with the onset of the COVID-19 pandemic, led to a substantial decline in oil demand and petroleum products, triggering a series of economic challenges for India. The resulting spillover effects included a sharp decline in stock markets, heightened inflation, and a depreciating Indian Rupee against the USD. The USA's decision to ban oil exports from Russia further intensified the situation, contributing to difficulties in maintaining key commodity prices such as cereal and crude oil in the domestic market.

In 2020, the whole oil scene took a hit because of the COVID-19 chaos. Governments worldwide had to shut down businesses and put travel restrictions, causing the oil demand to plummet. March turned into a showdown between Russia and Saudi Arabia over oil production levels, sparking a crazy oil price war. By April, there was oversupply of oil, causing the prices to fall like never before – West Texas Intermediate (WTI) dropped from $18 a barrel to -$37 a barrel.

The study's objective is to examine the inter-relationship between the Indian Currency and Commodity market, motivated by the observed volatility and impact during significant global events, including the COVID-19 pandemic and geopolitical conflicts. Three distinct periods were chosen for analysis: pre-Covid, during the Covid pandemic, and post-Covid in India.

The data utilized spans from January 1, 2018, to November 11, 2023, encompassing variables such as USDINR (currency), and commodities - Western Texas Intermediaries (WTI) crude oil, gold, and natural gas. This data, sourced from the Bloomberg database, is intentionally divided into three periods: Pre-Covid (Jan 1, 2018, to Dec 31, 2019), Covid (Jan 1, 2020, to Dec 31, 2021), and Post-Covid (Jan 1, 2022, to Nov 11, 2023). The use of daily data aims for increased precision and better capturing of the dynamic relationship between currency and commodity variables.

The methodology employed includes descriptive analysis to understand the data series' nature, stationarity tests such as ADF, PP, KPSS, and Zivot and Andrews Unit Root tests. Granger causality tests examine relationships between variables, while the GARCH model analyzes volatility persistence and clustering.

The results reveal distinctive patterns across the three periods. In the pre-Covid phase, a unidirectional spillover was identified between USDINR and crude oil, indicating the impact of USDINR fluctuations on crude oil returns. However, during the Covid era, this relationship evolved into a bidirectional spillover, indicating mutual influence. In the post-Covid period, no Granger causality was observed among variables, signaling a shift in relationships.

Pairwise Granger causality tests							
Full Sample		**Pre Covid**		**Covid**		**Post Covid**	
***UI* → C**	2.680(0.00004)*	***UI* → C**	8.2493(0.00)*	***UI* → C**	2.4684 (0.00)*	***UI* → C**	0.4207 (0.9241)
UI* → *G	3.527(0.0061)*	***UI* → *G***	-1 0.0042(0.948)	***UI* → *G***	1.8298 (0.1767)	***UI* → *G***	3.4379 (0.06431)
UI* → *N	1.287 (0.2596)	***UI* → *N***	0.4867 (0.8184)	***UI* → *N***	1.6621 (0.1283)	***UI* → *N***	1.3562 (0.2307)
C* → *UI	2.401 (0.0005)*	***C* → *UI***	7e-04 (0.9786)	***C* → *UI***	2.2464 (0.00) *	***C* → *UI***	0.6301 (0.7716)
G* → *UI	4.680(0.0015)*	***G* → *UI***	0.7346 (0.3918)	***G* → *UI***	2.5343 (0.112)	***G* → *UI***	1.5873 (0.2083)
N* → *UI	0.766 (0.596)	***N* → *UI***	0.5208 (0.7926)	***N* → *UI***	0.3184 (0.9274)	***N* → *UI***	0.8398 (0.5395)

* at significance level 0f 0.05

The GARCH tests confirmed volatility persistence and clustering across all variables in each period. Bidirectional spillover relationships emerged between USDINR and both crude oil and gold over the six-year sample, indicating their significant impact on each other's volatility. However, no Granger causality was observed between USDINR and natural gas during this extended period.

Coefficie-Nt	Pre Covid				Covid				Post Covid			
	USDINR	*CL*	*GOLD*	*NG*	*USDINR*	*CL*	*GOLD*	*NG*	*USDINR*	*CL*	*GOLD*	*NG*
alpha 1	0.0135 *	4.26e-11 **	NaN	5.06e-09 ***	0.0525 .	4.26e-11 **	NaN	5.06e-09 ***	0.0725 .	0.00107 **	0.0019 **	2.26e-06 ***
beta 1	<2e-16 ***	< 2e-16 **	< 2e-1(***	4.44e-16 ***	0.0135 *	< 2e-1(***	< 2e-1(***	4.44e-16 ***	<2e-16 ***	< 2e-1(***	<2e-16 ***	< 2e-16 ***

These findings are crucial in a rapidly changing global financial landscape, where geopolitical events, pandemics, and economic uncertainties intertwine. Understanding the complex relationship between currency and commodity markets is imperative for Indian stakeholders, including policymakers, central banks, and market participants. By staying informed about global and domestic developments, stakeholders can anticipate and adapt to these shifts, minimizing risks and seizing opportunities in both markets. This study provides valuable insights for informed decision-making in navigating the intricate dynamics between currency and commodity markets.

Unveiling the Influence of Derivatives Trading on Indian Stock Market Stability

-Snehdeep Birdi

Abstract: This article conducts a meticulous exploration into the impact of financial derivatives trading on the volatility of the Indian stock market, specifically focusing on the NSE S&P CNX Nifty index. Covering the period from the financial years 1995-1996 to 2008-09, the study utilizes statistical analyses and paired t-tests to assess the impact of derivative trading on market volatility. The results unveil a substantial reduction in volatility, attributed to heightened trading volumes and improved liquidity, ultimately fostering stability in the stock market.

Introduction: Global concerns regarding market volatility drive the need for effective risk management tools. This study centers on the introduction of derivatives in the Indian Capital Market in 1997 and investigates their impact on the NSE S&P CNX Nifty index. Derivatives, including Index Futures, Stock Futures, Index Options, and Stock Options, have evolved into essential tools for price discovery, portfolio diversification, and risk hedging.

Literature Review: This article reviews pertinent studies on the global impact of derivatives trading on stock markets, drawing insights from researchers like Rafael Santamaria, Cox, Gupta, and others. Key findings include a reduction in volatility, enhanced liquidity, and improved information transmission within derivative markets.

Objectives of the Study: The primary objective is to scrutinize the impact of derivatives trading on stock market volatility in the Indian context. The study spans from 1995-1996 to 2008-09, encompassing the pre-derivatives introduction and post-derivatives introduction periods.

Methodology: Employing the NSE S&P CNX Nifty index as a proxy, the study relies on secondary data from various sources. Volatility, measured as the standard deviation of rates of return, is assessed using statistical tools such as paired t-tests to analyse the impact of derivatives trading on stock market volatility.

Table 1 :Trends in turnover in derivatives at NSE (Rs. in Crore):

Year	Index Future	Stock Futures	Index Options	Stock Options	Turnover	Growth Rate(%)
June 2000 to March 2001	2365	NA*	NA*	NA*	2365	
2001-02	21482	51516	3766	25163	101927	4209.80
2002-03	43951	286532	9248	100134	439865	331.55
2003-04	554462	1305949	52823	217212	2130446	384.34
2004-05	772174	1484067	121954	168858	2547053	19.55
2005-06	1513791	2791721	338469	180270	4824251	89.40
2006-07	2539575	3830972	791912	193811	7356270	52.48
2007-08	3820667	7548563	1362111	359136	13090477	77.94
2008-09	3570111	3479642	3731501	229226	11010480	-15.89

Results and Interpretation: Tables and graphs present a thorough analysis of volatility before and after the introduction of different derivatives instruments. Paired t-tests affirm that the introduction of Index Futures, Index Options, Stock Options, and Stock Futures significantly reduces stock market volatility.

- *Index Futures:* Volatility significantly decreases post-introduction ($t = 5.359$, $p < 0.001$).
- *Index Options:* Volatility decreases post-introduction ($t = 4.369$, $p = 0.003$).
- *Stock Options:* Volatility decreases post-introduction ($t = 5.585$, $p < 0.001$).
- *Stock Futures:* Volatility decreases post-introduction ($t = 5.813$, $p < 0.001$).

Findings of the Study: The study uncovers a substantial impact of derivatives trading on reducing stock market volatility, attributed to increased trading volumes, enhanced liquidity, and improved information transmission within derivative markets. Notably, Stock Futures dominate the derivative markets in India, accounting for 57% of the total turnover in 2008- 09. The results are statistically supported by paired t-tests, rejecting null hypotheses and accepting alternative hypotheses.

Conclusion: In conclusion, the study underscores the vital role of derivatives trading in stabilizing the Indian stock market. The observed decline in volatility is not solely a result of introducing derivative products but also stems from attracting new traders, lower transaction costs, and efficient information transmission. The study emphasizes the significance of derivative markets in offering new investment possibilities, enriching market completeness, and contributing to overall market stability.

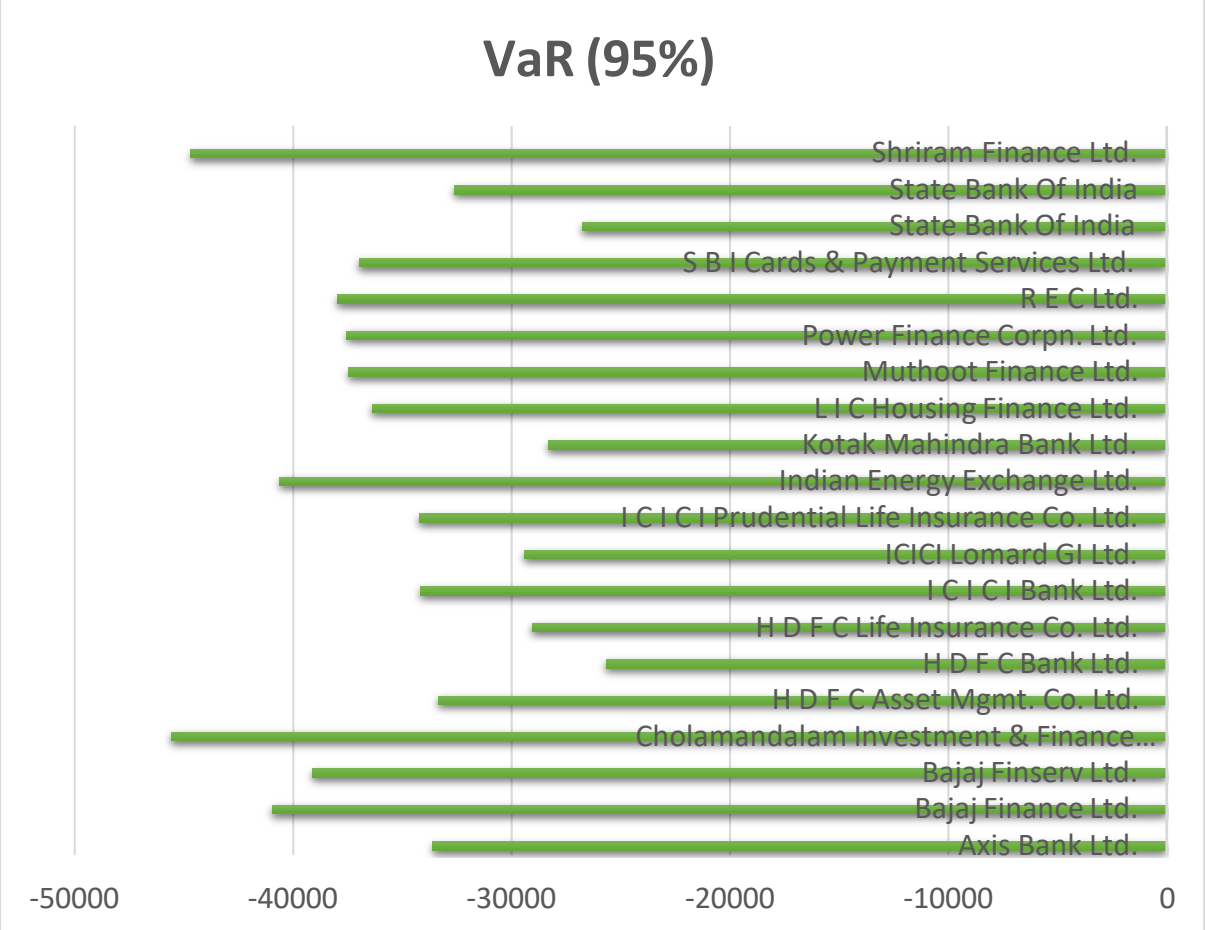
Implications and Future Research: The study's findings have implications for investors, policymakers, and market participants. Future research avenues could explore the enduring effects of derivatives trading on market stability and delve into the evolving role of derivative instruments in the dynamic financial landscape.

How can A.I help improve the efficiency of financial modelling in the future

-Noella Azaredo

Organisations can assess their existing financial situation and forecast their future financial position by using financial models, which are a sort of financial projection that compile crucial data. It is a crucial instrument for risk management, resource allocation, astute investing, obtaining capital, and creating long-term growth plans.

One popular model is the Value-at-risk, or VAR for short. Software such as Excel allows for simple calculations that even an average investor will be able to do on their own. Risk management departments in many organisations use VAR as a method to gauge risk levels of stocks. Here is an example of how VAR can easily be used to assess maximum loss in an investment or even compare companies' risk levels.



The image shows the risk comparisons of 20 Nifty Financial Services stocks, with their VAR levels at a confidence interval of 95%. In this particular model, it is assumed tat if an investor invested Rs. 10 lakhs, wat could be the maximum possible loss e or se could face on any given day.

Investing in a stock and figuring out the risk in it can be simple these days, but technology and financial solutions have developed so much to the point where we can now integrate technology to predict prices of stocks in the future, something which was not easily possible in the past. One such example is the Monte Carlo simulation method, which can calculate the prices of stocks with a certain level of accuracy depending on the type of model used.

To sum up, Monte Carlo simulation presents a wealth of possibilities for forecasting financial outcomes in the future. Through the application of this technique, decision- makers can improve their comprehension of possible outcomes, evaluate risks, carry out scenario analysis, and arrive at more informed conclusions. The capability of Monte Carlo simulation is anticipated to increase with further technological advancements, providing even more precise and trustworthy financial forecasts. When used by financial professionals, Monte Carlo simulation is a useful tool that can help them confidently traverse the complexity of the financial world, whether it is for portfolio management, risk assessment, or strategic decision-making.

As technology advances every day, even modelling work can be reduced to a matter of few minutes! To meet the needs of enterprises and financial specialists, numerous solutions have been developed in response to the growing demand for AI-driven financial modelling. These technologies offer a more precise and effective method for handling associated data in addition to streamlining the financial modelling process. Python, ProAI, LivePlan, and ChatGPT are a few of the frequently used options.

AI is very efficient because it enables executives to deal with massive datasets that would be too time-consuming or challenging to analyse manually, this is crucial for financial modelling. Patterns and trends that would be challenging for humans to notice can be recognised by AI.

New Age Technology IPO's:
Promise V/S Performance

- Akash AV

An in-depth analysis of IPO performance and market dynamics in the tech industry.

Introduction

Any company in need of capital can offer shares to the public for the first time and go public. And that to in the recent years there are many new age tech companies coming for the public to raise money. So, it's in technology sector, but I would say that it's in companies where there has been a lot of storytelling or where the current cash flows are not positive and there is a lot of cash burn in some of these companies.

From the last 4 years many IPO's have come to market and not only many IPO's coming but also, they are listing at a premium on their listing day which is gaining more traction from the market and one of the SME IPO which came with the 9 crore IPO got oversubscribed to 2700 crores shows the frenzies in the market for the IPO's.

Objective

1. Evaluated the IPO performance of 21 companies from Jan 2021 to Dec 2021, assessing promise versus performance.
2. Analyse pre-IPO and post-IPO financial metrics: Price to Earnings, Return on equity, Price to Sales, EBITDA Margin and PAT Margin to gauge performance against initial expectations.
3. Determine listing gains, returns after one and two years, and project 2025 sales performance to ascertain actual performance post-public listing.
4. Compare IPO performance between traditional and non-traditional firms to discern differences in market responses and validate promised expectations.
5. Finding whether they are justified with the with their IPO price or not by analysing the forward-looking statements given by company.

Interpretation:

	Services Oriented				Old House Heroes			Total of all 21	
	Median	Max	Average		Median	Max	Average	Average	Median
2021	4%	26%	2%		14%	32%	11%	6%	8%
2022	3%	20%	0%	ROE	15%	24%	13%	6%	7%
2023	6%	20%	6%		16%	27%	14%	10%	10%
2021	106	1334	304		46	523	102	207	49
2022	100	2105	272	PE	44	512	99	190	58
2023	59	2587	270		38	805	119	198	50
2021	8%	65%	11%		24%	91%	30%	20%	20%
2022	8%	63%	4%	EBITDA %	23%	35%	24%	14%	17%
2023	9%	60%	17%		22%	34%	22%	19%	19%
2021	3%	47%	4%		14%	47%	13%	8%	6%
2022	2%	43%	-4%	PAT %	14%	22%	12%	4%	6%
2023	6%	44%	9%		13%	17%	11%	10%	11%
2021	18	50	20		5	17	6	13	7
2022	14	48	17	PS	4	13	5	12	5
2023	6	27	9		3	11	5	7	5
2025	7	25	9		3	8	4	6	5

21 companies have been analysed and the after that they are segregated as Services oriented and the other as Old House Heroes where we can see their Performance analysis on different metrics as stated above.

	2021	2022		2023	
	Listing Profit	Return from IPO at year end	Returns from Listing at year end	Return from IPO after complete year	Returns from Listing after complete year
All Stocks return	33%	30%	-4%	8%	-19%
Nifty 50 Average return	**21%**	**43%**	**19%**	**49%**	**24%**
New tech Average Return	**41%**	**35%**	**-8%**	**-9%**	**-38%**
Old House Average Return	24%	26%	1%	26%	3%

This data shows the average listing profit, returns from the listing and from IPO for the year end they listed (FY22) and also for a full financial year (FY23).

	As on 2021		**As on 2023**	
Company Name(Rs in Cr)	**Revenue**	**Profit**	**Revenue**	**Profit**
Nykaa	2500	62	5000	21
CE Info	150	60	250	109
Rategain	250	-30	550	68
Medplus	3000	63	4500	50
Latent View	140	65	250	117
Star Health	5000	-1000	12000	619
PB Fintech	900	-150	2500	-488
Fino Payments	800	20	1250	65
Car Trade	120	10	150	33
Zomato	2000	-800	7000	-971
Nazara	450	14	1100	61

Here, in the company list we can see that even though many companies managed to increase their revenues with comparison to their Pre-IPO year (FY21) but not every one of them were able to increase their profits in the same phase, where still for some companies it even widened.

This loss – Capacity to suffer (In Buffett's word) is just a number as these are needed to be looked beyond profits because for acquiring a customer they need to spend and after onboarding to maintain the same customer the company needs little amount to maintain the same.

Company Name	Indian Market (In Crs)	Market Share	Sales (In Crs)	Expected Price /Sales (times)	Expected Market Cap
Nykaa	1216000	0.81	9850	7	**68947**
CE Info	34440	1.75%	603	25	**15068**
Rategain	65600	1.70%	1115	7	**7806**
Medplus	270000	2.50%	6750	1.5	**10125**
Latent View	82000	0.75%	615	22	**13530**
Star Health	115000	15%	17250	2.5	**43125**
PB Fintech	1200000	0.45%	5400	8	**43200**
Fino Payments	160000	1.15%	1840	2	**3680**
Car Trade	160000	0.25%	400	10	**4000**
Zomato	770000	2.00%	15400	8	**123200**
Nazara	50000	5%	2500	3	**7500**

These are the expected market cap based on the projections done and if they don't work out, then a lot of shareholders will lose a lot of their existing wealth and at the same time, if they work out and if they end up disrupting some of the existing incumbents and they've become very, very big companies, then by not tracking them or by not buying them, arguably there may be an opportunity loss for people who don't buy the companies.

Whereas the early-stage companies are going in, let's say a forest where, you don't know what you will find, where there's no perfect road, where they are beating their own path they may find a pot of gold or they may come across a snake or a lion, you don't know what will happen.

So, a lot of wealth will probably be created and destroyed. And a final thought, A lot of these companies have created employment opportunities for people which were not there earlier. A lot of these companies have helped merchants have helped restaurants to grow their business. A lot of consumers are very happy with some of the services that are being provided what we can hope is that the shareholders will also be happy just like employees or restaurants or merchants are happy, or customers are happy.

So, that evaluation we have to make and, only when all boxes are ticked, where you are confident that the company will survive number one & will not need continuous external funding, then you can, confidently invest in these kinds of companies.

Milestones Achieved by Students

Sambit Roy

CFA Level 2

Saurabh Deshmukh

CFA Level 1

Shritej Zemase

CFA Level 1

Aatish Chaurasia

CFA Level 1

Saumitra Khanolkar

CFA Level 1

Hariom Hudiya

CFA Level 1

Adil Kathat

CFA Level 1

Kunal Kabara

CFA Level 1

Nikesh Sanjaykumar

CMT Level 2

Nikunj Waghela

CMT Level 2

Ravi Baipilli

CMT Level 2

Abhishek Mishra

CMT Level 1

Rathala Nayak
CMT Level 1

Kunal Parihar
CMT Level 1

Gaurav Rathor
CMT Level 1

Tapmi Bloomberg Olympiad 2024 winner (2nd place)

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National Institute of Securities Markets

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